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WORK PLAN AND HEALTH AND SAFETY PLAN UNDERGROUND STORAGE TANK REMOVAL 3134 MONTANA AVE NS GREAT LAKES IL

8/1/2005

TOLTEST, INC

ENVIRONMENTAL JOB ORDERCONTRACT
NO. N689500-00-D-0200
DELIVERY ORDER NO. 0113

WORK PLAN & HEALTH AND SAFETY PLAN
UNDERGROUND STORAGE TANK REMOVAL
3134 MONTANA AVE
NAVAL STATION GREAT LAKES
GREAT LAKES, ILLINOIS

PREPARED FOR

DEPARTMENT OF THE NAVY
NAVAL STATION GREAT LAKES
ENVIRONMENTAL DEPARTMENT
BUILDING 1-A, 201 DECATUR AVENUE
GREAT LAKES, ILLINOIS 60088-5600

SUBMITTED
AUGUST 2005

BY

TOLTEST, INC.
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TOLTEST PROJECT NO. 20457.01

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GREAT LAKES, ILLINOIS

Submitted by:

TolTest, Inc.
1020 S. Northpoint Boulevard
Waukegan, IL 60085

TolTest, Inc. hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under this contract is complete, accurate, and complies with all requirements of the contract.

Prepared by: _____ Date: 8/25/05
Jeffrey M. Tinney, Project Manager

Reviewed by: _____ Date: 8/25/05
Timothy A. Boos, Quality Control Representative

Approved by: _____ Date: 8/25/05
Khushwant Mander, EJOC Senior Project Manager

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LIST OF ACRONYMS

API	American Petroleum Institute
CFR	Code of Federal Register
CY	Cubic Yards
GPS	Global Positioning Satellite
HASP	Health and Safety Plan
IAC	Illinois Administrative Code
IEMA	Illinois Environmental Management Agency
IEPA	Illinois Environmental Protection Agency
LEL	Lower explosive limit
LPC	Land Pollution Control
LUST	Leaking Underground Storage Tank
NAVSTA	Naval Station
OSFM	Office of the Illinois State Fire Marshal
OSHA	Occupational Safety and Health Administration
PID	Photoionization Detector
PPE	Personal Protective Equipment
SSHO	Site Safety and Health Officer
TACO	Tiered Approach to Corrective Action Objectives
TolTest	TolTest, Inc.
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank

EXECUTIVE SUMMARY

TolTest, Inc. (TolTest) has prepared this Work Plan (WP) and Health and Safety Plan (HASP) pursuant to the Department of the Navy (Navy), Naval Facilities Engineering Command Contract No. N689500-00-D-0200 and the Statement of Work (SOW) dated July 19, 2005 to remove and dispose of one 1,000-gallon steel underground storage tank (UST), associated piping, dispensers and footing. Preliminary observations and record review suggest that used oil was stored in the UST; however, it should be assumed that the contents of the UST are unknown.

The UST is located in a vacant lot identified as 3134 Montana Avenue at Naval Station Great Lakes (NAVSTA).

The SOW requires TolTest to assume that approximately 80 cubic yards (CY) of petroleum impacted soil may be encountered and up to 2,000 gallons of groundwater during the UST removal activity.

TolTest has developed this site specific Work Plan and Health and Safety Plan (HASP) that outlines the UST removal procedures, petroleum impacted soil and water management, and health and safety procedures that will be utilized to complete the scope of work

This site specific Work Plan includes the following information:

- UST removal procedures.
- Petroleum impacted soil management procedures.
- UST inerting and cleaning procedures.
- Soil and/or groundwater sampling procedures.
- Copies of TolTest's UST removal licenses.

This plan will be reviewed and approved by the Navy prior to the start of work.

PART I - DEMOLITION WORK PLAN

1.0 INTRODUCTION

This Work Plan outlines the procedures that will be utilized for the removal of one 1,000-gallon waste oil UST; management of potentially petroleum-impacted soil; and the collection of environmental samples. The UST is located in a vacant lot identified as 3134 Montana Avenue at the NAVSTA, Great Lakes, Illinois. TolTest will remove the UST in accordance with the following regulations:

- 35 Illinois Administrative Code (IAC) Parts 731, 732, and 742.
- Office of the Illinois State Fire Marshal Division of Petroleum and Chemical Safety (OSFM).
- United States Environmental Protection Agency (USEPA) Underground Storage Tank Regulations 40 Code of Federal Register (CFR) 280.71.
- American Petroleum Institute (API) standards.
- National Fire Protection Association standards.
- Petroleum Equipment Institute standards.

The UST was discovered during construction upgrades to 3134 Montana Ave. Preliminary estimates suggest that the UST volume is 1,000 gallons or less; however, it should be assumed that the UST volume is unknown. Preliminary observations and record reviews suggest that the UST contained used oil; however, it should be assumed that the contents of the UST are unknown.

The UST removal activities will include, but are not limited to, the following tasks:

- Obtain a UST Removal Permit and schedule a removal date with the OSFM.
- Remove the residual product inside the UST.
- Excavate to uncover the UST and stockpile the overburden adjacent to the excavation cavity.
- Purge the UST of flammable vapors.
- Remove the UST from the excavation cavity utilizing an excavator.
- Cut open the end of the UST and wash the interior of the tank prior to transporting it to a recycle facility.
- Evaluate and characterize soil and groundwater (if present) according to Federal and State regulations.
- Collect confirmatory soil samples from the UST excavation cavity and submit the samples for laboratory analysis.
- Backfill the UST excavation cavity.
- Characterize, transport and recycle or dispose of the liquids and sludge removed from the one 1,000-gallon UST and the wash water used to clean the UST.

- Obtain an Illinois Emergency Management Administration (IEMA) Incident Number if the OSFM Inspector deems a release of petroleum hydrocarbons.
- Provide a 20-Day Certificate, Free Product Removal Report, and 45-Day Report, if required.
- Provide the Navy with a Delivery Order Closure Report documenting the UST removal activities performed during this project the aforementioned environmental reporting is not required.

2.0 EQUIPMENT, PERSONNEL, AND SUBCONTRACTORS

This section details the equipment, personnel, and subcontractors to be utilized to complete the tasks for this project. TolTest personnel will be utilized for the excavation and removal of one 1,000-gallon UST, management of potentially impacted soil and groundwater, collection of confirmatory soil samples; and field screening the soil from the excavation cavity.

Personnel assigned to this project may change, if needed, to efficiently complete the tasks defined in this Work Plan. Should any personnel changes occur, the replacement personnel shall have an equivalent background to that of the individual being replaced. TolTest will coordinate the use of all subcontractors utilized to complete this project. Table 1.0 depicts the equipment, TolTest personnel, and subcontractors that will be utilized to complete this project.

Table I-1 Equipment, Personnel, and Subcontractors

EQUIPMENT	TOLTEST PERSONNEL	SUBCONTRACTORS
Field Truck Photoionization detector (PID) 02/Lower Explosive Limit (LEL) detector Dump truck Air Compressor Backhoe Excavator Diaphram Pump Assorted Hand tools Generator 55-gallon drums	**Jeff Tinney,** Project Manager **Mike Hubans** Site Superintnendent, Site Safety and Health Officer **Tim Boos** QA/QC Officer; **Francisco Villagra** General Labor Support	**Suburban Laboratories** Sample Analyses **Republic Services, Inc.** Tanks Contents Disposal **Kestrel Hawk RDF** Construction Debris and Contaminated Soil Disposal (if any) **Lake County Grading** Excavation Contractor

3.0 UST REMOVAL SEQUENCE AND OPERATIONAL APPROACH

The UST removal sequence and operational approach for the removal of the one 1,000-gallon UST is defined in the following sections.

3.1 Permitting and Notification

On August, 12 2005, TolTest submitted a Notification of Tank Removal to the OSFM for the removal of the one 1,000-gallon UST. The OSFM has issued TolTest a permit to remove the UST. TolTest has scheduled a date for the OSFM inspector to witness the UST removal activities on August 23, 2005. A copy of the OSFM removal permit can be found in **Appendix A**. TolTest's Illinois UST removal license as well as the TolTest site superintendent's UST removal certification can be found in **Appendix B**.

A request for a utility locate has been coordinated with the Joint Utility Locate Information for Excavators (JULIE). The area in the vicinity of the UST will be marked to identify the utilities in the area adjacent to the anticipated limits of excavation on August 19, 2005.

The OSFM Inspector will witness the removal of the UST from the excavation cavity and the opening and cleaning of the tank. In addition, the OSFM Inspector will evaluate whether a release from the UST has impacted the subsurface environmental quality conditions at the site. The site status is deemed minor, significant, or major depending on the site location, severity of petroleum hydrocarbon impact within the excavations, and the condition of the UST when removed. The OSFM Inspector will file a report with the Division of Land Pollution Control, who will in turn issue a Land Pollution Control (LPC) number for the site.

If the OSFM Inspector deems a product release has occurred, TolTest will notify the IEMA within 24 hours of discovering the release and receive an incident number for the site. The incident number will be forwarded to the OSFM Inspector. TolTest will retain the responsibility to submit the 20-Day Certification, 45-Day Report, and Free Product Removal Report to the IEPA, if required.

3.2 Mobilization and Site Set-up

Upon arrival at the site, a safety meeting will be conducted to identify the work zones for the UST removal activities. Three general work zones (the exclusion zone, contamination reduction zone, and support zone) will be established at the site. The exclusion zone is defined as the area where contamination is either known or likely to be present or may cause harm to personnel because of activity. Entry into the exclusion zone requires the use of personal protective equipment (PPE). The contamination reduction zone is the area where personnel conduct personal and equipment decontamination. It is essentially a buffer zone between contaminated areas and clean areas. The support zone is situated in clean areas where the chance to encounter hazardous materials or conditions is minimal; therefore, PPE is not required.

TolTest will install safety fencing around the perimeter of the excavation to protect base personnel and vehicles from accidentally entering the excavation cavity. During working periods, TolTest

will move the safety fencing to access the site but will return the safety fencing during non- working periods.

An interim on-site storage area will be constructed for the staging of excavated materials and soils. The area will be bermed and lined with 6 mil or heavier plastic sheeting and all seams will be taped.

3.3 Sampling and Disposal of Tank Contents

The tank contents will be characterized as special or hazardous waste in accordance with 35 IAC, Sub G, Ch 1, Part 732 and 40 CFR, Part 261. The residual product and sludge from the UST will be tested in accordance with the toxicity characteristic leaching procedure 40 CFR 261.24 to determine if the residue is characteristically hazardous. Tank content samples will be analyzed by Suburban Laboratories for the waste characterization parameters established by the NAVSTA Environmental Operations Division.

Any liquid found in the UST will be removed utilizing an air driven diaphragm pump to transfer the liquids into 55-gallon drums. The liquid from the UST will be pumped into the drums after the UST tops have been exposed but before the UST is uncovered. Removal of the drums for disposal will be coordinated with the Environmental Operations Manager, Mark Hoyer. Mr. Hoyer will be notified a minimum of two days prior to the removal of the waste.

3.4 UST Removal

The following UST removal sequence shall be adhered to as promulgated by the OSFM regulation 35 IAC, Part 170 and the regulations identified in Section 1.0 of this document.

The excavation area will be marked to identify the utilities in the vicinity of the expected limits of the excavation cavity. Caution will be used during excavation, as exact placements of buried utility services may not be known. TolTest will hand dig when adjacent to or crossing any utilities. If an unexpected utility is encountered during the excavation activities, TolTest will use caution and secure the utility to reduce the chances of damaging the utility. If the utility appears to be a potential hazard for personnel, the Navy will be contacted to schedule an outage until the task can be completed.

The excavation activities will commence at the direction of the Navy. During the excavation, all encountered structures will be removed from the system and disposed as construction debris. Excavation activities will be conducted in accordance with 29 CFR 1926.650 through 1926.653. Section 4.3 of the Health and Safety Plan (Part II) details excavation safety procedures. The UST will be uncovered by utilizing an excavator to expose the UST, piping, and other ancillary equipment. Should any petroleum hydrocarbon impacted soil be encountered, the Navy will be notified immediately. NAVSTA Environmental Department calculations indicate that approximately 80 CY of petroleum hydrocarbon impacted soil contained within the UST cavity and up to 2,000 gallons of groundwater may be encountered and disposed as non-hazardous waste. The implementation of any remedial alternatives outside the above mentioned parameters will be conducted with a modification to this project.

Care will be taken to segregate visually impacted soil. If the stockpile samples collected from the visually impacted soil indicate petroleum hydrocarbon impact, the soil will be manifested to Kestrel Hawk Landfill, an NAVSTA approved disposal facility permitted to manage and treat special waste. Petroleum hydrocarbon-impacted soil disposal procedures are specified in section 3.5 of this Work Plan.

Field screening will be conducted on soil removed from the excavated area. Soils removed from the excavation will be segregated into a non-impacted stockpile or petroleum-impacted stockpile based on olfactory and visual observations and PID headspace screening. The soil collected for PID headspace screening will be sealed in a plastic bag and warmed for approximately fifteen minutes. The tip of a RAE Systems MiniRAE® PID will be inserted into the bag for one minute. After one minute has elapsed, the highest reading will be considered the final PID result.

Once the UST is uncovered, TolTest will begin the demolition of the piping and ancillary equipment. TolTest will flush and clean product lines back to the UST and allow the wash water to drain back into the UST. After the product lines have been cleaned, TolTest will cut the line to isolate the UST. Once the fuel lines are isolated, TolTest will remove the product lines.

The Site Superintendent/Health and Safety Officer will conduct air monitoring of the tank interior and the general work area. Air monitoring measurements will be documented. Ventilation/purging of the UST will be conducted in accordance with 35 IAC Part 170 and API 1604 Section 4.2. The UST will be purged by venting all vapors from the UST at a minimum height of 12 feet above grade. Flammable and combustible vapors may be purged using an eductor-type air mover that is driven by compressed air.

Testing of the UST atmosphere will be regularly conducted for oxygen and combustible vapor concentrations until the UST is removed from the excavation cavity, opened, cleaned, and removed from the site. Readings will be taken from the bottom, middle, and top of the vessel, as required. Tank readings of 10% or less of the LEL must be obtained before the UST is considered safe for removal from the ground. Prior to monitoring for combustible gas levels, the oxygen level must first be determined to be between the Occupational Safety and Health Administration (OSHA) action levels of 19.5% and 23.5% for proper combustible gas indication. A combustible gas meter will not operate properly where oxygen levels are less than 19.5% or greater than 23.5%. If it is less than 19.5%, the operation will be shut down and ventilated until oxygen levels are greater than 19.5% but less than 23.5%.

Once the atmosphere has been evaluated to be safe by TolTest and the OSFM Inspector, the UST will be removed from the excavation cavity. Log chains or cable chokers will be rigged to the excavator and used to remove the UST from the excavation cavity. The UST will be staged on plastic sheeting outside the exclusion zone and secured in place by setting chocks along the sides of the UST before it will be cleaned and holes cut in each end of the UST.

If there is a concrete hold down pad for the UST, the concrete pad will be demolished and removed by the excavator. The concrete debris will be placed on top of plastic sheeting and evaluated for petroleum hydrocarbon impact. If the concrete is not impacted, it will be recycled

at Vulcan Materials in Lake Bluff, Illinois. If the concrete is considered impacted, the concrete will be profiled, manifested, and disposed of as special waste at the Kestrel Hawk Landfill.

3.5 UST Cleaning and Waste Disposal

One hole will be cut at each end of the UST so that the interiors of the UST may be cleaned prior to disposal. A high-pressure washer and detergent will be utilized to remove the remaining sludge and debris from the interior of the UST. All rinsates will be collected into 55-gallon DOT-approved drums utilizing pneumatic diaphragm pump. TolTest will properly dispose of the UST and provide the Navy with the proper disposal documentation in accordance with the State of Illinois regulations.

Liquid waste generated from removing and cleaning the UST will be deposited into 55-gallon steel drums, which will be labeled, and staged in a secure area at the site. Prior to moving the drums, the Navy will be contacted for an approved location to stage the drums while TolTest awaits the analytical results of the drummed contents. Section 3.3 of this Work Plan details the sampling procedures that will be utilized to collect the waste characterization sample.

Once the analytical results for the UST liquids are received from the laboratory, TolTest will coordinate the proper disposal method with the Environmental Department Operations Manager, Mr. Hoyer. Mr. Hoyer will be notified two days prior to removing the waste from the site. The drums of liquid waste generated from the removal of the UST will be transported to the Republic Services facility for disposal.

If soils in the UST excavation cavity are observed to be visually stained or have high PID screening results, TolTest will place the soil on 10-mil plastic sheeting. Waste characterization samples will be collected from the stockpiled soil and sent to the Suburban Laboratories for analysis by the parameters established by the Environmental Department Operations Manager. Upon approval for disposal of the impacted soil, manifests will be prepared and the material will be transported by a licensed, permitted, trained and equipped transporter to Kestrel Hawk Landfill located in Racine, Wisconsin. Kestrel Hawk Landfill is a permitted waste disposal facility and has been approved by the NAVSTA Great Lakes Environmental Department. TolTest will contact Mr. Hoyer to review and sign the waste manifests.

3.6 Closure Sampling

Closure samples will be collected from the UST excavation cavity and piping runs when field observations and screening methods indicate that a release from the UST have not occurred. No materials exhibiting visual, olfactory or measurable off-gas characteristics will be submitted to the laboratory for analysis as closure samples. In the case that a release has occurred, closure samples will be collected after the impacted material has been removed from the UST excavation cavity.

The UST location will also be documented utilizing the global positioning satellite (GPS) instrument. TolTest will submit the GPS UST location to the Navy. The GPS locations may be used for future subsurface investigations if the UST cavity is found to contain petroleum hydrocarbon- impacted soil.

A total of 6 confirmatory grab samples will be collected from the UST excavation cavity for laboratory analysis. The 6 samples shall be collected from the following locations within the UST excavation cavity:

- Four soil samples will be collected from the side walls (one soil sample from the base of each sidewall).
- Two soil samples will be collected from the excavation floor, under each end of the UST.

The collection of duplicate samples is not recommended for the UST removal. The soil samples collected from the excavation cavity will be split into two components; one for field screening and one for laboratory analysis. The samples for laboratory analysis will be placed into glass containers fitted with Teflon®-lined lids. Samples for field screening will be placed into re-sealable plastic bags and screened on site using a RAE Systems MiniRAE® PID to preliminarily assess for the presence of total organic vapors. As previously stated, PID screening will be conducted following the accumulation of headspace gas from the sample after it has been placed within the re-sealable plastic bag.

Closure samples will be collected and submitted to Suburban Laboratories, Inc. for laboratory analysis in accordance with IEPA requirements. A copy of Laboratory Certifications can be found in **Appendix C**. The closure samples will be analyzed for the following analytical parameters:

- Polynuclear Aromatics (PNAs) by USEPA Method 8310.
- RCRA Metals by USEPA Method 6010
- Volatile Organic Compounds by USEPA Method 8260
- Semi-volatile Organic Compounds by USEPA Method 8270

The laboratory analyses will be performed by utilizing a 72-hour turnaround time for the analytical results. If any of the sample results exceed the TACO Tier 1 Remediation Objectives for Residential and/or Commercial properties and NAVSTA Environmental requests TolTest to excavate additional soil from the UST cavity, a second set of closure samples will have to be collected in accordance with the aforementioned procedures. The excavation of any additional soil and collection of any additional confirmation samples beyond the original contracted quantities will be performed under a modification to the scope of work for this project.

Groundwater samples shall be analyzed per IEPA LUST parameters for waste oil tanks. The Tier 1 Remediation Objectives for Residential and Commercial/Industrial for Class I and II groundwater will be used to compare the closure sample results and aid in determining the status of the site. Included on the table are acceptable detection limits that shall be used by the laboratory. The Tier 1 Tables can be found in **Appendix D**.

3.7 Backfill and Site Restoration

TolTest will restore the site to level grade, top four to six inches shall be native topsoil, hydoseeded with a mixture of Kentucky blue grass, perennial rye and fescue. TolTest will water and maintain the restored area until the area is 90% covered. TolTest will not apply any

pesticides, herbicides or weed killers without prior consent of the NAVSTA Natural Resources Program Manager.

4.0 CHEMICAL DATA ACQUISITION

This section identifies the locations and types of chemical data needed, the protocol to be employed to acquire and transport samples to the laboratory, and the quality QA/QC methods to be employed to ensure accurate, precise, representative, and legally defensible data.

TolTest will be responsible for properly sampling and transporting samples to the analytical laboratory, as well as the quality of all data produced. Samples will be analyzed by the Suburban Laboratories, Inc. of Chicago, Illinois. All sampling activities will be performed according to protocols, specific to each parameter of interest, as promulgated by the USEPA. The Site Superintendent will collect the samples for field screening and laboratory analysis.

Tank liquids, sludge or residue, and spent cleaning fluids will be composited for waste disposal analysis since the fluids will be transported and disposed at the same facility. Samples will be collected for laboratory analysis according to the parameters required for transport, recycling or disposal within Federal, State and Local guidelines. Fluids used to clean the tank will be used sparingly to reduce the quantity of regulated wastes generated for this project. Generated spent cleaning fluids that are separated from tank sludge and residue will be sampled as required to facilitate proper handling, transport, recycling and/or disposal.

The closure analysis for the UST will be done in accordance with 35 IAC Part 732.310. The method detection limits for analysis will be lower than the TACO standards for Tier 1 Residential and Industrial/Commercial Remediation Objectives from 35 IAC Part 742, which can be found in **Appendix D**. Table 2 depicts detection limits achievable by the Suburban Laboratories, Inc., Tier 1 required detection limits, and Tier 1 Remediation Objectives.

If groundwater is present in the excavation, it will be observed for a sheen, odor, or floating product. All groundwater sampling will be conducted in accordance with appropriate Federal, State and Local regulations and may be substituted for cavity bottom soil samples.

During sampling activities, appropriate decontamination procedures will be followed to minimize sample contamination from external sources such as sampling equipment or sample containers. These procedures will be consistent with those outlined in "Test Methods for Evaluating Solid Waste-Physical/Chemical Methods" (USEPA SW-846, 3rd. ed.).

All samples collected will be preserved according to USEPA protocol established for the parameters of interest. Appropriate measures will be taken to ensure that storage requirements with respect to temperature are maintained during transport to the laboratory and prior to log-in and storage at the laboratory. Table 3 contains the container type, volume of sample, preservation of the sample, and holding time for each parameter that may be analyzed.

Environmental samples will be transported to the Suburban Laboratories via a next day carrier. Samples will be packaged and transported according to USEPA, Contracting Officer and USDOT regulations.

Samples will be collected, transported and received under strict chain-of-custody protocols consistent with procedures established by the USEPA for litigation-related materials. Upon receipt at the laboratory, the laboratory will provide a specific mechanism through which the deposition and custody of the samples are accurately documented during each phase of the analytical process.

5.0 REPORTING REQUIREMENTS

TolTest will provide the Navy a Closure Report detailing all work performed, soil assessment, analytical results, site and vicinity maps, photographic documentation, copies of waste manifest, chain-of-custody, permit for removal, tank closure form, and tank disposal certificate of destruction.

If field screening indicates evidence of a significant release of tank contents, either in the soil or groundwater, the Navy will be verbally notified immediately, followed by written notification. In addition, a 20 Day Certification, 45 Day Report, and Free Product Removal Report (if any), will be submitted to the Navy. The cleanup objectives will be in accordance with IEPA TACO, 35 IAC 742. If the OSFM classifies the site as non-LUST, no reporting or corrective action to IEPA is required.

If there is physical evidence of petroleum hydrocarbon impact in the tank backfill material, surrounding soil or holes/pitting in the tank discovered upon removal, the IEMA must be notified by the TolTest within 24 hours of discovery. An IEMA Incident number will be issued and the IEPA Division of Land Pollution Control is notified. These numbers, the IEPA LPC number and, if necessary, the IEMA Incident number will become the tracking device for subsequent IEPA reporting/communication.

6.0 SCHEDULE

The work schedule will be eight-hour days, five days per week. The UST removal sequence will begin once approvals and all necessary permits and notifications have been received. All work will be completed within 30 days after contract award.

The work will be conducted in such a manner as to cause the least interference with the normal functions of the site and surrounding area. Portions of the site will be vacated for periods of time as necessary for TolTest to perform certain work and stage equipment and materials.

PART II - SITE HEALTH AND SAFETY PLAN

1.0 INTRODUCTION

TolTest is responsible for the safety, health, and emergency response provisions for this contract. These provisions are provided through the development and implementation of TolTest's Corporate HASP and this Site HASP. All personnel on site, contractors and subcontractors included, will be informed of this plan and any potential health and safety hazards of the operation.

2.0 APPLICABILITY

This plan will be followed during all site activities starting with site mobilization through and including site demobilization. This plan incorporates the requirements of the following regulations and/or appropriate guidance:

- Federal Acquisition Regulation (FAR) clause 52.236-13, Accident Prevention,
- OSHA Construction Industry Standards, 29 CFR 1926,
- OSHA General Industry Standards, 29 CFR 1910 (including but not limited to 29 CFR 1910.120, Hazardous Waste Site Activities),
- NIOSH/OSHA/USCG/EPA, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities,
- 40 CFR Parts 280, 281, 263-265, and IL Title 35 Section 700 through 750
- 49 CFR Part 178
- OPNAVINST 5090.1B and the base Hazardous Waste Management Plan
- American Petroleum Institute Recommended Practice, API 1604, API Publication 2015,
- Other applicable Federal, State, and local safety and health requirements.

The implementation of the Work Plan includes the excavation, removal and disposal one 1,000-gallon waste oil UST adjacent to 3134 Montana Avenue at the NAVSTA, Great Lakes.

3.0 SITE SAFETY AND HEALTH

This section addresses the responsibilities for safety and health oversight, personnel protective equipment, site specific control measures and operating procedures.

3.1 Key Personnel

Key personnel have not been listed. The Site Safety and Health Officer (SSHO) has the overall responsibility for ensuring that the provisions of this HASP are implemented in the field. The SSHO will be present during the period that heavy equipment is operating and will observe and record the activities. The SSHO is responsible for conducting daily tailgate safety meetings and site inspections to ensure the effectiveness of this plan. As field conditions change, decisions will be made regarding additional protective measures. Personnel assigned to this project are experienced and meet the supervisory training requirements specified by OSHA in 29 CFR 1910.120 as well as first aid and CPR training. The SSHO is also trained in accordance with the bloodborne pathogen regulation 29 CFR 1910.1300.

3.2 Personal Protective Equipment

PPE is to be used by employees for each of the site tasks and operations being performed. The type of PPE will depend upon the level of potential exposure to hazards. Table 1 lists potential chemical hazards of concern. EPA Level D PPE is anticipated to be used for all tasks except tank cleaning for this project. EPA Level B PPE will be used for tank cleaning if personnel physically enter the tank. Table 1 includes chemical hazards that may be found in petroleum products. TolTest personnel will be equipped at a minimum with the below mentioned PPE:

- Working Uniform
- Tyvek suit (may be used pending site conditions)
- Boots/shoe, steel toe
- Hard hat
- Safety Glasses
- Hearing protection if noise level exceeds 84 dB
- Latex Gloves

Table II-1 Chemical Hazards of Concern

CONTAMINANT	TWA/IDLH	SOURCE/ CONCENTRATION	ROUTES OF EXPOSURE	MONITORING METHOD
Benzene	TWA: 10.0 PPM Ceiling Conch: 25.0 PPM	Surface soil, 0 to 5 PPM Liquids/sludge 0 to 5 PPM	Inhalation Ingestion Contact Absorption	NIOSH: 1501 IP: 9.245 eV FLP: 12F
Toluene	TWA: 200 PPM Ceiling Cone: 300 PPM	Surface soil, 0 to 5 PPM Liquids/sludge, 0 to 5 PPM	Inhalation Ingestion Contact Absorption	NIOSH: 1501 IP: 8.82 eV FLP: 40 F
Ethyl Benzene	TWA: 100 PPM 435 mg/m3 Ceiling Cone: N/A	Surface soil, 0 to 5 PPM Liquids/sludge, 0 to 5 PPM	Inhalation Ingestion Contact Absorption	NIOSH: 1501 IP: 8.76 eV FLP: 55F
Xylene	TWA 100 PPM 480 mg/m3 Ceiling Cone: N/A	Surface soil 0 to 5 PPM Liquids/sludge, 0 to 5 PPM	Inhalation Ingestion Contact Absorption	NIOSH: 1501 IP: 8.56 eV FLP: 63F
Lead	PEL: 30 ug/m3	Surface soil, 0 to 5 PPM Liquids/sludge 0 to 5 PPM	Inhalation Ingestion Contact Absorption	N/A

NIOSH = National Institute for Occupational Safety and Health
OSHA – Occupational Safety and Health Act (Administration)

3.3 Site Control Measures

Control procedures will be implemented to prevent unauthorized access to the work area. Safety cones and caution tape will be utilized around the work area. The SSHO will ensure that all personnel entering the site have the necessary training and medical approval documentation. Personnel entering the site will be given a thorough briefing on the site hazards and safe work procedures prior to proceeding. This safety meeting will be conducted on a daily basis and will be documented. The topics of discussion will include potential physical and chemical hazards involved in tank removal activities. The Corporate Health & Safety Manual will be used as a reference to discuss in detail the pertinent topics that are applicable for each days work activities.

All visitors will be expected to comply with applicable regulatory OSHA requirements as well as the requirements of this HASP. Visitors will also be expected to provide their own PPE. In the event that a visitor does not adhere to the provisions of the HASP, they will be requested to leave the work area. All non-conformance incidents will be recorded in the site log. The SSHO will document a written record of all personnel entering and exiting the site.

3.4 Site Standard Operating Safety Procedures

The following safety rules will be adhered to during all site activities:

- At least one copy of this plan will be available at the project site, in a location readily available to all personnel, including visitors.
- Personnel should practice contamination avoidance. All liquid, sludge, and soil samples will be collected in such a manner to minimize contact or exposure to the materials being sampled.
- No food or beverages shall be present or consumed in the work area.
- No tobacco products shall be used on the project site.
- No alcohol or drugs shall be present or consumed on site, or in any company vehicle. No personnel will be permitted to work while under the influence of alcohol or drugs while on site or operating a company vehicle.
- Emergency equipment will be located in the company vehicle in a readily accessible location. Emergency equipment will consist of fire extinguishers, first aid kit, and mobile telephone.
- Visual contact shall be maintained between crew members at all times, and crew members must observe each other for signs of exposure to chemical, biological, or physical agents. Indications of adverse effects include, but are not limited to:
  - Changes in complexion and skin coloration;
  - Changes in coordination;
  - Changes in demeanor;
  - Excessive salivation and pupillary response; and
  - Changes in speech pattern.
- All personnel shall inform their partners or team members of non-visible effects of overexposure to chemical, biological, or physical agents. Symptoms of overexposure may include:
  - Headaches;
  - Dizziness;
  - Nausea;
  - Blurred vision;
  - Cramps; and
  - Irritation of the eyes, skin, or respiratory tract.

3.5 Site-Specific Respiratory Protection

During this project petroleum-containing liquids/sludges will be removed and petroleum-impacted soil may be excavated. This may pose inhalation hazards at the site. The work area and breathing zones will be monitored with a PID. It is anticipated that respiratory protection

will not be needed except for during tank cleaning activities. Tank cleaning activities will be performed utilizing EPA Level B PPE, which includes supplied air with full face mask, as required by 35 IAC, Part 170.670 subsection (c) (12) (A) - (G). If personnel do not physically enter the tank, the PPE requirements in Part 170.670 shall not apply. If monitoring indicates respiratory protection is necessary for personnel working outside the tank interior, work will stop until the situation is assessed. The selection of respirators as well as any decisions regarding upgrading or downgrading of respiratory protection will be made by the SSHO.

3.6 Material Safety Data Sheets (MSDS)

TolTest expects to encounter petroleum hydrocarbons during the removal of the UST. A copy of a MSDS for typical petroleum, oil, and lubricants has been included in **Appendix E**.

4.0 ACCIDENT PREVENTION

This section includes activity hazard analysis, which describe the work activity, probable hazards related to the work, and proactive precautionary measures that will be taken for safeguarding against and minimizing or eliminating each particular hazard. In addition, daily safety inspections, accident reporting, excavation safety and liquid/soil handling safety are discussed in the following paragraphs.

4.1 Daily Safety Inspections

All machinery and equipment will be inspected daily by the Site Supervisor/ SSHO to ensure a safe operating condition. Inspections will be in accordance with the manufacturer's recommendations and will be documented. Records of inspections will be maintained at the site, will be made available upon request, and will become part of the project file.

In addition to daily inspections, the SSHO will conduct a daily safety meeting. The SSHO will discuss safety topics relevant to the hazards involved in that day's work. All employees and visitors will review and sign the safety-log, which documents the topics of discussion. The safety-log will be submitted to the Navy with the Contractor Quality Control Reports on a weekly basis.

4.2 Accident Reporting

All accident reporting and record keeping requirements will be adhered to. TolTest's forms will be completed for all incidents including personal injury reports, safety incident reports, equipment damage reports, and vehicle accident reports. All reports will be submitted to the Navy representative within 24 hours of any accident. Copies of these forms are included in **Appendix F**.

4.3 Excavation Safety

All excavating work will be conducted in strict conformance with, at a minimum, 29 CFR 1926.650 through 29 CFR 1926.653, including requirements for continuously sloping excavations to 1-1/2 to 1 (33°41') angle of repose, unless TolTest tests the soil. If TolTest tests and categorizes the soils, an angle of repose, as indicated below, may be utilized.

Table II-2 Approximate Angle of Repose

TYPE OF SOIL	ANGLE OF REPOSE
Solid Rock, Shale, or Cemented Sand and Gravel	90^0
Compacted Angular Gravel	½:1 (63^0 1')
Average Soils	1:1 (45^0)
Compacted Sharp Sand	1-1/2:1 ($33^0$41')
Well-Rounded Loose Sand	2:1 (26^0 34')

Note: Silts, loams, or non-homogenous soils require shoring and bracing. The presence of ground water requires special treatment.

Shoring and sheeting of the excavation will be used, if necessary, to prevent injury to persons, damage to structures, injurious caving and erosion. The shoring, sheeting and bracing will be carefully removed, as the excavation is backfilled.

Excavation work will not commence until TolTest has contacted the utility companies (gas, electric, telephone, and pipeline) and determined locations of any underground or overhead utilities. Clearances to adjacent overhead transmission and distribution electrical lines will be sufficient for the movement of vehicles and operation of construction equipment. The requirements stated in OSHA 29 CFR 1926 General Construction Industry Standard and the National Electric Safety Code will be followed by TolTest.

During periods when the work site is unoccupied (i.e., overnight, weekends and other similar off periods) barricades will be placed around the excavation site in such a manner to alert personnel to the danger and prevent them from entering the work area.

4.4 Activity Hazard Analysis

Listed below is a description of each task/operation in terms of the definable features associated with the major phase of work. The protective measures to be implemented during completion of those operations are identified in the activity hazard located in **Appendix G**. Activity Hazard Analyses have been developed for:

a. Site Walk Through
b. Excavation
c. Tank Cleaning
d. Tank Purging/Inerting
e. Demolition
f. Subsurface Soil Sampling
g. Backfill and Site Restoration
h. Soil Loadout & Grading
i. Decontamination

5.0 EMERGENCY RESPONSE

TolTest will implement an emergency response and contingency procedures, in accordance with OSHA standards 29 CFR 1910.120(L). This section addresses work zones and excavation procedures, decontamination, emergency medical treatment and first aid, emergency response procedures, spill and discharge control.

5.1 Work Zones and Evacuation Procedures

Daily safety meetings will identify the work zones for construction activities. The three general work zones established at the site are the exclusion zone, contamination reduction zone, and support zone. The exclusion zone is defined as the area where contamination is either known or likely to be present, or because of activity, will provide a potential to cause harm to personnel. Entry into the exclusion zone requires the use of personnel protective equipment. Barricades will surround this zone.

The contamination reduction zone is the area where personnel conduct personal and equipment decontamination. It is essentially a buffer zone between contaminated areas and clean areas. The support zone is situated in clean areas where the chance to encounter hazardous materials or conditions is minimal. Personal protective equipment is therefore not required.

Evacuation routes will be designated during the daily safety meetings. In the event of an emergency, which necessitates evacuation, all personnel will be expected to mobilize a safe distance, using the designated evacuation routes. Personnel will remain at that area until the SSHO provides further instructions.

5.2 Decontamination

All site personnel should minimize contact with contaminants in order to minimize the need for extensive decontamination. The SSHO is responsible for monitoring decontamination procedures and determining their effectiveness. Sampling equipment will be decontaminated by first washing with alconox and water (or equivalent laboratory grade soap) triple rinsing with water and then allowed to air dry. Heavy equipment will be cleaned with a pressurized steam cleaner and detergent upon completion of work activities.

5.3 Emergency Medical Treatment and First Aid

There are no anticipated hazards expected on site, which require specific medical attention or protocols. All TolTest employees participate in TolTest's medical screening and surveillance programs. If an injury/illness or exposure occurs, employees must seek medical attention immediately. All TolTest field personnel are trained in first aid and CPR and can administer immediate assistance.

5.3.1 Cold Stress

Cold and/or wet environmental conditions can place workers at risk of cold-related illness. Hypothermia can occur whenever temperatures are below 45°F. The principal cause of

hypothermia in these conditions usually involves the loss of insulating properties of clothing due to moisture; heat loss due to increased air movement, and evaporation of moisture on the skin.

Frostbite, the other illness associated with cold exposure, is the freezing of body tissue which ranges from superficial freezing of surface skin layers to deep freezing of underlying tissue. Frostbite will only occur when the ambient temperatures are below 32°F. The risk of frostbite increases as the temperature drops and the wind speed increases.

Most cold-related worker fatalities have resulted from failure to escape low environmental air temperatures, or from immersion in low temperature water. The single most important aspect of life-threatening hypothermia is a drop in the deep core body temperature.

Site workers should be protected from exposure to cold so that the core body temperature does not fall below 98.6°F. Lower body temperatures will very likely result in reduced mental alertness, reduction in rational decision making, or loss of consciousness with the threat of fatal consequences. To prevent such occurrence, the following measures will be implemented:

- Site workers should wear warm clothing, such as gloves, heavy socks, etc., when the air temperature is below 45°F. Protective clothing, such as Tyvek or other disposable overall, may be used to shield employees from the wind.
- When the air temperature is below 32°F, clothing for warmth should include:
  - Insulated suits, such as whole body thermal underwear
  - Wool socks or polypropylene socks to keep moisture off the feet
  - Insulated gloves
  - Insulated boots
  - Insulated head cover such as hard hat, winter liner, or knit cap
  - Insulated jacket, with wind and water resistant outer layer
- At air temperatures below 32°F, the following work practices must be implemented:
  - If a site worker's underclothing becomes wet, the worker must change into dry clothing immediately. If the clothing becomes wet from sweating (and the employee is uncomfortable), the employee may finish the task at hand prior to changing into dry clothing.
  - Site workers will be provided with a warm (65°F or above) break area.
  - The intake of caffienated beverages should be limited, due to their circulatory and diuretic effects.
  - The buddy system shall be practiced at all times on site. Any site worker observed with severe shivering shall go to the heated break area.
  - Site workers should dress in layers, with thinner lighter clothing worn next to the body.

Frostbite

To administer first aid for frostbite, take the exposed employee indoors and rewarm the areas quickly in warm water that is between 102° and 105°F, for about 20 minutes or until the frozen tissue regains the original color. Provide warms drinks, but no coffee, tea, or alcohol. Keep the affected (frozen) tissue in warm water or covered with warm clothing for 30 minutes, even though the tissue may be very painful as it thaws. If present, do not allow blisters to be broken. Use sterile, soft dry material to cover the injured area, keep the patient warm and get medical attention.

- Do not rub the frostbitten part, additional damage may be done.
- Do not use heat lamps or hot water bottles to warm the frostbitten areas.
- Do not place the exposed part near a hot stove.

Hypothermia

Hypothermia is defined as a lowering of the core body temperature. General hypothermia, the more life-threatening cold injury, affects the entire body system. Once the body temperature is lowered to 95°F, thermal control is lost, and the body is no longer in thermal balance. A coma may occur when the core temperature reaches to below 95°F. Death can occur within two hours of the first signs and symptoms. The general symptoms of the hypothermia are usually exhibited in five stages:

- Shivering;
- Apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body;
- Unconsciousness, glassy stare, slow pulse, and respiratory rate;
- Freezing of the extremities; and
- Death.

Extremely low temperatures are not necessary to induce hypothermia--it can occur in temperatures as high as 65°F, depending on the wind chill factor. Wind increases the body's heat loss by dispersing layers of warm air trapped between layers of clothing and skin. This heat loss increases as the wind speed increases.

5.3.2 Heat Stress

Physical hazards may involve heat-related symptoms such as heat stress, heat cramps, heat exhaustion, or heat stroke. Heat stress is the aggregate of environmental and physical work factors that make up the total heat load imposed on the body. The environmental factors of heat stress include air temperature, humidity, radiant heat exchange, and wind/water vapor pressure (related to humidity). Physical work contributes to the total heat stress by producing metabolic heat in the body, proportional to the intensity of the work. Heavy physical labor can greatly increase the likelihood of heat fatigue, heat exhaustion, and heat stroke, the latter being a life threatening condition. Heat stress monitoring and observation of personnel may commence when the

ambient temperature is 80 degrees F or above (65 degrees F, if chemical protective clothing is worn).

All employees will be informed of the possibility and symptoms of heat stress. If an employee experiences extreme fatigue, cramps, dizziness, headache, nausea, profuse sweating, or pale, clammy skin, the employee and the SSHO will take control measures. If the symptoms do not subside after a reasonable rest period, the SSHO shall seek medical assistance.

To prevent heat stress, the following control measures will be implemented.

- Site workers will be encouraged to drink plenty of water throughout the day.
- On-site drinking water will be kept cool to encourage personnel to drink frequently.
- A work regimen that will provide adequate rest periods for cooling down will be established, as required.
- All personnel will be advised of the dangers and symptoms of heat stroke, heat exhaustion, and heat cramps.
- Employees should be instructed to observe and monitor themselves and coworkers for signs of heat stress and to take additional breaks as necessary.
- All breaks should take place in cool, well-ventilated, and shaded rest areas.

Heat Cramps

Heat cramps are caused by heavy sweating and inadequate electrolyte replacement. symptoms include muscle spasms.

Heat Exhaustion

Heat exhaustion occurs from increased stress on various body organs. Signs and symptoms include:

- Pale, cool, moist skin
- Heavy sweating
- Dizziness, nausea
- Fainting

Heat Stroke

Heat stroke is the most serious form of heat stress and should always be treated as a medical emergency. The body's temperature regulation system fails and the body temperature rapidly rises to critical levels. Immediate action must be taken to cool the body before serious injury or death occurs. Signs and symptoms of heat stroke include:

- Red, hot, usually dry skin

- Lack of or reduced respiration
- Nausea
- Dizziness and confusion
- Strong, rapid pulse and confusion
- Coma
- Death

The differential diagnosis for heat stroke is the lack of sweating as the body's defense mechanisms for shedding excess heat fail.

5.4 Emergency Alerting and Response Procedures

All hazardous substance releases or spills involving Government waste or Government property, other than the original release, will be immediately reported to the Navy. Spill cleanup and remediation and damage to the environment resulting from TolTest actions will be the responsibility of TolTest.

Below are a list of emergency numbers, emergency service organizations and directions to the nearest hospital. A telephone is located inside the TolTest support truck.

Table II-3 Emergency Telephone Numbers

Naval Station Great Lakes Environmental Office	(847) 688-5999 x157
Navy Hazardous Substance Response Team	(847) 688-3333
Navy Trouble Desk	(847) 688-4820
Great Lakes **Police** Department, Emergency	(847) 688-3333 or **911**
Great Lakes **Fire** Department, Emergency	(847) 688-3333 or **911**
Ambulance Service (Building 200H)	(847) 688-3333 or **911**
National Response Center, Coast Guard	(800) 424-8802
CHEMTREC Emergency Response	(800) 424-9300
Environmental Hotline	(847) 688-4197
Provena St. Therese **Hospital**	(847) 360-2467
Naval **Hospital** – 2705 Sheridan Road	(847) 688-4560
US Veterans' **Medical Center** – 3001 Green Bay Road	(847) 688-1900
TolTest Office, Waukegan IL	(847) 689-0697
TolTest Corporate Office, Toledo, OH	(419) 794-3500

Directions to the nearest hospital are provided in **Appendix H.**

5.5 Spill and Discharge Control

This section provides contingency measures for potential spills and discharges from the handling and transportation of any contaminated soil, contamination fluids, and/or oil/fuel. If a spill or discharge occurs, the following actions, at a minimum, will be taken:

1. Notify the Navy representative immediately.
2. Take immediate measures to control and contain the spill within the site boundaries. This will include, at a minimum, the following actions:
    - Keep unnecessary people away, isolate hazardous areas, and deny entry.
    - Do not allow anyone to touch spilled material.
    - Stay upwind; keep out of low areas where fluids and/or vapors may accumulate.
    - Keep combustibles away from the spilled material
    - Use water spray or foam to reduce vapor or dust generation, as needed
    - Take samples for analysis to determine that clean up is adequate
    - Take other corrective measures, as needed

A written report will be submitted to the Navy within seven days of a verbal report. The SSHO will conduct spill prevention briefings daily during safety meetings for all personnel who are involved with handling, receipt, storage, and/or cleanup of oil/fuel.

Storage - All tanks, containers, and pumping equipment used for the storage or handling of flammable and combustible liquids will be labeled or placarded in accordance with the US DOT. Oils or fuels temporarily stored will be kept in tightly sealed containers (with the exception of proper venting), in fire-resistant areas and at safe distances from ignition sources. All transfer vessels will be emptied at the end of the workday.

Pumping Flammable and Combustible Liquids - Flammable liquid pumping systems will be electrically bonded and grounded, and will be drawn from, or transferred into vessels, containers, or tanks through a closed piping system, from safety cans, by means of a device drawing through the top, or from a container, or portable tanks, by gravity or pump, through an approved self closing valve. Transferring by means of air pressure on the container or portable tank is prohibited.

Equipment Inspection - Equipment inspection is part of the daily routine during field activities. The Site Supervisor is to ensure that no oil/fuel spill has accumulated in any area by conducting daily visual inspection of the equipment. Equipment and safety issues will be documented in the daily report.

APPENDIX A

OSFM UST REMOVAL PERMIT

OFFICE OF THE ILLINOIS STATE FIRE MARSHAL
Division of Petroleum and Chemical Safety
1035 Stevenson Drive
Springfield, Illinois 62703-4259
(217)785-1020 or (217)785-5878

FOR OFFICE USE ONLY	
Facility #	2-023811
Permit #	00894-2005REM
Request Rec'd	08/09/2005
Amended Date	
Approval Date	08/12/2005 MWB
Permit Expires	02/12/2006
Commencement Date	09/08/2005

Permit for REMOVAL of Underground Storage Tank(s) and Piping for Petroleum and Hazardous Substances.

Permission to remove underground storage tank(s) or piping is hereby granted. Such removal shall not commence until the contractor the permit was issued to or an employee of that contractor (this does not include a subcontractor) shall establish a date certain to perform the UST activity by contacting the Office of the State Fire Marshal, Division of Petroleum and Chemical Safety, by telephone at the Springfield office between 8:30 a.m. and 12:00 p.m., at which time a mutually agreed upon date and time for the UST activity shall be scheduled. **THIS PERMIT IS VALID FOR SIX MONTHS FROM THE APPROVAL DATE.**

(1) OWNER OF TANKS - Corporation, partnership, or other business entity:	(2) FACILITY - name and address where tanks are located:
Commanding Officer Naval Station 2601 A. Paul Jones Street, Great Lakes, IL 60088-5000 Contact:	NTC Environmental Dept 201 Decatur Avenue, Building 1-A, Great Lakes, Lake Co., IL Contact: Conrad Dziewulski (847) 688-5999 Ext. 153

(3) REMOVAL OF TANKS:

(a) ***Number and size of tanks being removed:*** (TK # 3234) - 1,000 gallons

(b) ***Product stored in each tank:*** (TK # 3234) - Fuel Oil

(c) ***Reason of tanks being removed:*** Housing unit is being demolished, and the UST is no longer required.

(d) ***If tank(s) is leaking, indicate IEMA incident number:***

(e) ***Date each tank was last used:*** (TK # 3234) - 12/31/1973

(4) **Owner must notify this Office when completion of tank removal has occurred, on the Notification Form for Underground Storage Tank Form. Please note a Notification form has been forwarded to the name and address shown in Item 1 (All pages of this form must be completed). After removal is completed, the owner/operator shall perform a site assessment by measuring for the presence of a release where contamination is most likely to be present at the UST site. This is in accordance with the Illinois Administrative Code 170.640 (a) regulations and 40 CFR Part 280.72 (a) Federal Register Requirement.**

(5) SPECIAL CONTINGENCIES:

(6) PERSON, FIRM OR COMPANY PERFORMING WORK:

TolTest, Inc.
1000 Northpoint Boulevard,
Waukegan, IL 60085

Contact Person: Jeff Tinney
Phone: (847) 689-0697

Contractor Registration # IL-2132 Exp. 12/21/2005

Sincerely,

Mark W. Blough, Engineering Technician III

cc: Storage Tank Safety Specialist - Dwyer
Fire Department
Office Coordinator - Spoor
Division File
(Rev. - 1/98)

WDT:

APPENDIX B

TOLTEST'S CORPORATE AND SITE SUPERINTENDENT ILLINOIS UST REMOVAL LICENSES

STATE OF ILLINOIS

OFFICE OF THE STATE FIRE MARSHAL
DIVISION OF PETROLEUM AND CHEMICAL SAFETY

Decommissioning LICENSED UST CONTRACTOR

This is to certify that:
IL2132
TolTest, Inc.
1915 N. 12th St.
Toledo, OH 43603

Said licensed Contractor has met all obligations pursuant to 41 Illinois Administrative Code Parts 170 and 172. Said Contractor is licensed in the State of Illinois to perform the above licensed UST activity from 12/21/2003 thru 12/21/2005

January [illegible], 2004

State Fire Marshal — Date — Acting Division Director

INTERNATIONAL CODE COUNCIL

TIMOTHY A BOOS

The International Code Council attests that the individual named on this certificate has satisfactorily demonstrated knowledge as required by the International Code Council by successfully completing the prescribed written examination based on codes and standards then in effect, and is hereby issued this certification as:

UST DECOMMISSIONING

given this day of January 18, 2005

Frank P. Hodge Jr.

Frank P. Hodge Jr.
President, ICC Board of Directors

James L. Witt

James L. Witt
ICC Chief Executive Officer

5050788-U2
Certificate Number

ICC
INTERNATIONAL CODE COUNCIL®

Certificate of Completion

This certificate was presented to

TIMOTHY A. BOOS

for the successful completion of the

8-HOUR ANNUAL OSHA REFRESHER/4-HOUR DOT
TRAINING COURSE
in accordance with the
Hazardous Waste and Emergency Response Standard
29 C.F.R. 1910.120/The Department of Transportation

December 2, 2004
Date:

120204-8OSHA-02
Certificate Number:

Ronald G. Worley, CIHM, CET, CECM,
CMI-1, FAAIM, DCP, ACHMF, DABFE

Certificate of Completion

This certificate was presented to

TIMOTHY A. BOOS

for the successful completion of the

8- HOUR OSHA TECHNICIAN REFRESHER TRAINING
in accordance with the
Hazardous Waste Operations and Emergency Response Standard
29 C.F.R. 1910.120

December 3, 2004
Date:

120304-8TECH-02
Certificate Number:

Ronald G. Worley, CIHM, CET, CECM, CMI-1, FAAIM, DCP, ACHME, DABFE
President

Certificate of Completion

This certificate was presented to

MIKE HUBANS

for the successful completion of the

8 HOUR OSHA REFRESHER TRAINING

in accordance with

29 CFR 1910.120

May 6, 2005
Date:

Richard L. Barcum, MS, CIH, CSP, CHMM
Manager, Corporate Health and Safety

INTERNATIONAL CODE COUNCIL

MICHAEL HUBANS

The International Code Council attests that the individual named on this certificate has satisfactorily demonstrated knowledge as required by the International Code Council by successfully completing the prescribed written examination based on codes and standards then in effect, and is hereby issued this certification as:

UST DECOMMISSIONING

given this day of February 3, 2005

Frank P. Hodge Jr.

Frank P. Hodge Jr.
President, ICC Board of Directors

James R. Witt

James L. Witt
ICC Chief Executive Officer

5123774-U2
Certificate Number

ICC
INTERNATIONAL CODE COUNCIL®

INTERNATIONAL CODE COUNCIL

JEFFREY M TINNEY

The International Code Council attests that the individual named on this certificate has satisfactorily demonstrated knowledge as required by the International Code Council by successfully completing the prescribed written examination based on codes and standards then in effect, and is hereby issued this certification as:

UST DECOMMISSIONING

given this day of January 27, 2005

Frank P. Hodge Jr.

Frank P. Hodge Jr.
President, ICC Board of Directors

James R. Witt

James L. Witt
ICC Chief Executive Officer

5050789-U2
Certificate Number

ICC
INTERNATIONAL CODE COUNCIL®

Certificate of Completion

This certificate was presented to

JEFF TINNEY

for the successful completion of the

8- HOUR OSHA TECHNICIAN REFRESHER TRAINING
in accordance with the
Hazardous Waste Operations and Emergency Response Standard
29 C.F.R. 1910.120

December 3, 2004
Date:

120304-8TECH-03
Certificate Number:

Ronald G. Worley, CIHM, CET, CECM, CMI-1, FAAIM, DCP, ACHME, DABFE
President

APPENDIX C

ANALYTICAL LABORATORY CERTIFICATIONS

STATE OF ILLINOIS

ENVIRONMENTAL PROTECTION AGENCY

NELAP - RECOGNIZED

ENVIRONMENTAL LABORATORY ACCREDITATION

Is hereby granted to

SUBURBAN LABORATORIES, INC.

4140 LITT DRIVE

HILLSIDE, IL 60162-1183

NELAP ACCREDITED

ACCREDITATION NUMBER #100225

ACCREDITED IN ACCORDANCE WITH nelac

According to the Illinois Administrative Code, Title 35, Subtitle A, Chapter II, Part 186, ACCREDITATION OF LABORATORIES FOR DRINKING WATER, WASTEWATER AND HAZARDOUS WASTES ANALYSIS, the State of Illinois formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed below.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part 186 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part 186. Please contact the Illinois EPA Environmental Laboratory Accreditation Program (IL ELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Illinois is not an endorsement or a guarantee of validity of the data generated by the laboratory.

Jeff Johnston
Manager
Division of Laboratories

Scott D. Siders
Accreditation Officer
Environmental Laboratory Accreditation Program

Certificate No.: 001156

Expiration Date: 10/31/2005

Issued On: 12/07/2004

State of Illinois
Environmental Protection Agency

Certificate No.: 001156

wards the Certificate of Approval

Suburban Laboratories, Inc.
4140 Litt Drive
Hillside, IL 60162-1183

According to the Illinois Administrative Code, Title 35, Subtitle A, Chapter II, Part 186, ACCREDITATION OF LABORATORIES FOR DRINKING WATER, WASTEWATER AND HAZARDOUS WASTES ANALYSIS, the State of Illinois formally recognizes that this laboratory is technically competent to perform the environmental analyses listed on the scope of accreditation detailed below.

The laboratory agrees to perform all analyses listed on this scope of accreditation according to the Part 186 requirements and acknowledges that continued accreditation is dependent on successful ongoing compliance with the applicable requirements of Part 186. Please contact the Illinois EPA Environmental Laboratory Accreditation Program (IL ELAP) to verify the laboratory's scope of accreditation and accreditation status. Accreditation by the State of Illinois is not an endorsement or a guarantee of validity of the data generated by the laboratory.

Drinking Water, Inorganic

SM2150B,18Ed
Odor

SM2320B,18Ed
Alkalinity

SM2540C,18Ed
Total dissolved solids

SM4500CN-CE18Ed
Cyanide

SM4500F-C,18Ed
Fluoride

SM4500H-B,18Ed
Hydrogen ion (pH)

SM4500NO2B,18Ed
Nitrite

SM5540-C,18Ed
Foaming agent

USEPA150.1
Hydrogen ion (pH)

USEPA200.7R4.4

Aluminum	Barium	Calcium
Chromium	Copper	Iron
Manganese	Nickel	Silica
Silver	Sodium	Zinc

USEPA200.9R2.2

Antimony	Arsenic	Beryllium
Cadmium	Lead	Selenium
Thallium		

USEPA245.1R3.0
Mercury

USEPA300.0R2.1

Nitrate	Nitrite	Orthophosphate
Sulfate		

inking Water, Organic

USEPA504.1R1.1

Awards the Certificate of Approval

Suburban Laboratories, Inc.
4140 Litt Drive
Hillside, IL 60162-1183

Drinking Water, Organic	*USEPA504.1R1.1*	1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (EDB)		
USEPA507R2.1		
Alachlor	Atrazine	Butachlor
Metolachlor	Metribuzin	Simazine
USEPA508R3.1		
4,4'-DDT	Aldrin	Chlordane total
Dieldrin	Endrin	gamma-BHC (Lindane)
Heptachlor	Heptachlor Epoxide	Hexachlorobenzene
Hexachlorocyclopentadiene	Methoxychlor	PCBs as Aroclors
Propachlor	Toxaphene	
USEPA515.1R4.0		
2,4,5-TP (Silvex)	Dalapon	Dicamba
Dinoseb	Pentachlorophenol	Picloram
USEPA524.2R4.1		
1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethene
1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,2-Dichloroethane
1,2-Dichloropropane	1,4-Dichlorobenzene	Benzene
Bromodichloromethane	Bromoform	Carbon tetrachloride
Chlorobenzene	Chlorodibromomethane	Chloroform
cis-1,2-Dichloroethene	Dichloromethane (Methylene chloride)	Ethylbenzene
Styrene	Tetrachloroethene	Toluene
Total trihalomethanes	trans-1,2-Dichloroethene	Trichloroethylene
Vinyl chloride	Xylenes (total)	
USEPA552.2R1.0		
Dibromoacetic acid	Dichloroacetic acid	Monobromoacetic acid
Monochloroacetic acid	Trichloroacetic acid	
Hazardous and Solid Waste, Inorganic		
1311		
TCLP (Organic and Inorganic)		
1312		
Synthetic Precipitation Leaching Procedure		
6010B		
Aluminum	Antimony	Arsenic
Barium	Beryllium	Cadmium
Calcium	Chromium	Cobalt
Copper	Iron	Lead
Magnesium	Manganese	Molybdenum
Nickel	Phosphorus	Potassium
Selenium	Silver	Sodium
Thallium	Vanadium	Zinc
7041		
Antimony		
7060A		
Arsenic		

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Hazardous and Solid Waste, Inorganic *7091*

Beryllium

7131A

Cadmium

7191

Chromium

7211

Copper

7421

Lead

7470A

Mercury

7471A

Mercury

7521

Nickel

7610

Potassium

7740

Selenium

7761

Silver

7841

Thallium

9014

Cyanide

9045C

Hydrogen ion (pH)

Hazardous and Solid Waste, Organic

8021B

Benzene	Ethylbenzene	m-Xylene
o-Xylene	p-Xylene	Toluene

8081A

4,4'-DDD	4,4'-DDE	4,4'-DDT
Aldrin	alpha-BHC	alpha-Chlordane
beta-BHC	Chlordane - not otherwise specified	delta-BHC
Dieldrin	Endosulfan I	Endosulfan II
Endosulfan sulfate	Endrin	Endrin aldehyde
Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane
Heptachlor	Heptachlor epoxide	Methoxychlor
Toxaphene		

8082

PCB-1016	PCB-1221	PCB-1232

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Hazardous and Solid Waste, Organic	*8082*	
PCB-1248	PCB-1254	PCB-1260
8151A		
2,4,5-TP (Silvex)	2,4-D	
8260B		
1,1,1,2-Tetrachloroethane	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene
1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane
1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromo-3-chloropropane (DBCP)
1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane
1,2-Dichloropropane	1,3,5-Trimethylbenzene	1,3-Dichlorobenzene
1,3-Dichloropropane	1,4-Dichlorobenzene	1,4-Dioxane
2,2-Dichloropropane	2-Butanone (Methyl ethyl ketone, MEK)	2-Chloroethyl vinyl ether
2-Chlorotoluene	2-Hexanone	4-Chlorotoluene
4-Methyl-2-pentanone (Methyl isobutyl ketone, I	Acetone	Acrolein (Propenal)
Acrylonitrile	Allyl chloride	Benzene
Bromobenzene	Bromochloromethane	Bromodichloromethane
Bromoform	Bromomethane	Carbon disulfide
Carbon tetrachloride	Chlorobenzene	Chlorodibromomethane (Dibromochlorometha
Chloroethane	Chloroform	Chloromethane
cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromomethane
Dichlorodifluoromethane	Dichloromethane (Methylene chloride)	Ethyl methacrylate
Ethylbenzene	Hexachlorobutadiene	Hexachloroethane
Isopropylbenzene	Methacrylonitrile	Methyl acrylate
Methyl ethyl ketone	Methyl iodide (Iodmethane)	Methyl methacrylate
Methyl-t-butyl ether	m-Xylene	Naphthalene
n-Butylbenzene	n-Propylbenzene	o-Xylene
p-Isopropyltoluene	p-Xylene	sec-Butylbenzene
Styrene	tert-Butylbenzene	Tetrachloroethene
Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene
Trichloroethene	Trichlorofluoromethane	Vinyl acetate
Vinyl chloride	Xylenes (Total)	
8270C		
1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene
1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol
2,4-Dinitrotoluene (2,4-DNT)	2,6-Dinitrotoluene (2,6-DNT)	2-Chloronaphthalene
2-Chlorophenol	2-Methylnaphthalene	2-Nitroaniline
2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline
4,6-Dinitro-2-methylphenol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol
4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Nitroaniline
4-Nitrophenol	Acenaphthene	Acenaphthylene
Anthracene	Benzidine	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perlyene
Benzo(k)fluoranthene	Benzoic acid	Benzyl alcohol
Bis(2-chloroethoxy) methane	Bis(2-chloroethyl) ether	Bis(2-chloroisopropyl) ether

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Hazardous and Solid Waste, Organic

8270C

Bis(2-ethylhexyl) phthalate
Butyl benzyl phthalate
Carbazole
Chrysene
Dibenz(a,h)anthracene
Dibenzofuran
Diethyl phthalate
Dimethyl phthalate
Di-n-butyl phthalate
Di-n-octyl phthalate
Fluoranthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Indeno(1,2,3-cd) pyrene
Isophorone
m-Cresol (3-Methylphenol)
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodi-n-propylamine
N-Nitrosodiphenylamine
o-Cresol (2-Methylphenol)
p-Cresol (4-Methylphenol)
Pentachlorophenol
Phenanthrene
Phenol
Pyrene
Pyridine

8310

Acenaphthene
Acenaphthylene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenz(a,h)anthracene
Fluoranthene
Fluorene
Indeno(1,2,3-cd) pyrene
Naphthalene
Phenanthrene
Pyrene

Wastewater, Inorganic

SM2130,18Ed

Turbidity

SM2310B4a,18Ed

Acidity

SM2320B,18Ed

Alkalinity

SM2510B,18Ed

Specific conductance

SM2540B,18Ed

Residue (Total)

SM2540C,18Ed

Residue (TDS)

SM2540D,18Ed

Residue (TSS)

SM2540F,18Ed

Residue (Settable solids)

SM3500Cr-D,18Ed

Chromium VI

SM4500CN-CE18Ed

Cyanide

SM4500CN-CG18Ed

Cyanide-amenable to chlorination

SM4500F-B,C18Ed

Fluoride

SM4500NH3BC18Ed

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Wastewater, Inorganic	*SM4500NH3BC18Ed*	Ammonia
SM5210B,18Ed		
Biochemical oxygen demand (BOD)	Carbonaceous Biochemical Oxygen Demand (C	
SM5310C,18Ed		
Total organic carbon (TOC)		
USEPA120.1		
Specific conductance		
USEPA150.1		
Hydrogen ion (pH)		
USEPA160.1		
Residue (TDS)		
USEPA160.2		
Residue (TSS)		
USEPA160.3		
Residue (Total)		
USEPA1664RA		
Oil and Grease		
USEPA180.1		
Turbidity		
USEPA200.7		
Aluminum	Antimony	Arsenic
Barium	Beryllium	Boron
Cadmium	Calcium	Chromium
Cobalt	Copper	Iron
Lead	Magnesium	Manganese
Molybdenum	Nickel	Selenium
Silica	Silver	Sodium
Thallium	Vanadium	Zinc
USEPA204.2		
Antimony		
USEPA206.2		
Arsenic		
USEPA210.2		
Beryllium		
USEPA213.2		
Cadmium		
USEPA218.2		
Chromium		
USEPA220.2		
Copper		
USEPA239.2		
Lead		
USEPA245.1		

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Wastewater, Inorganic

USEPA245.1
Mercury

USEPA249.2
Nickel

USEPA270.2
Selenium

USEPA272.2
Silver

USEPA279.2
Thallium

USEPA305.1
Acidity

USEPA310.1
Alkalinity

USEPA335.2
Cyanide

USEPA340.2
Fluoride

USEPA350.2
Ammonia

USEPA350.3
Ammonia

USEPA405.1
Biochemical oxygen demand (BOD)

USEPA410.2
Chemical Oxygen Demand (COD)

USEPA420.1
Phenolics

Wastewater, Organic

USEPA608

4,4'-DDD	4,4'-DDE	4,4'-DDT
Aldrin	alpha-BHC	beta-BHC
Chlordane	delta-BHC	Dieldrin
Endosulfan I	Endosulfan II	Endosulfan sulfate
Endrin	Endrin aldehyde	gamma-BHC (Lindane)
Heptachlor	Heptachlor epoxide	PCB-1016
PCB-1232	PCB-1242	PCB-1248
PCB-1254	PCB-1260	Toxaphene

USEPA610

Acenaphthene	Acenaphthylene	Anthracene
Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene
Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene
Dibenz(a,h)anthracene	Fluoranthene	Fluorene
Indeno(1,2,3-cd) pyrene	Naphthalene	Phenanthrene

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Wastewater, Organic

USEPA624

1,1,1-Trichloroethane
1,1-Dichloroethane
1,2-Dichloroethane
1,4-Dichlorobenzene
Benzene
Bromomethane
Chloroethane
cis-1,3-Dichloropropene
Ethylbenzene
trans-1,2-Dichloroethene
Trichlorofluoromethane

USEPA625

1,2,4-Trichlorobenzene
1,4-Dichlorobenzene
2,4-Dichlorophenol
2,4-Dinitrotoluene (2,4-DNT)
2-Chlorophenol
3,3'-Dichlorobenzidine
4-Chlorophenyl phenyl ether
Acenaphthylene
Benzo(a)pyrene
Benzo(k)fluoranthene
Bis(2-chloroethyl) ether
Dibenz(a,h)anthracene
Di-n-butyl phthalate
Fluorene
Hexachlorocyclopentadiene
Isophorone
N-Nitrosodimethylamine
Pentachlorophenol
Pyrene

USEPA610

1,1,2,2-Tetrachloroethane
1,1-Dichloroethene
1,2-Dichloropropane
2-Chloroethylvinyl ether
Bromodichloromethane
Carbon tetrachloride
Chloroform
Dibromochloromethane
Tetrachloroethene
trans-1,3-Dichloropropene
Vinyl chloride

1,2-Dichlorobenzene
2,2-Oxybis(1-chloropropane)
2,4-Dimethylphenol
2,6-Dinitrotoluene (2,6-DNT)
2-Methyl-4,6-dinitrophenol
4-Bromophenyl phenyl ether
4-Nitrophenol
Anthracene
Benzo(b)fluoranthene
Benzyl butyl phthalate
Bis(2-ethylhexyl) phthalate
Diethyl phthalate
Di-n-octyl phthalate
Hexachlorobenzene
Hexachloroethane
Naphthalene
N-Nitrosodi-n-propylamine
Phenanthrene

Pyrene

1,1,2-Trichloroethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
Acrylonitrile
Bromoform
Chlorobenzene
Chloromethane
Dichloromethane (Methylene chloride)
Toluene
Trichloroethene

1,3-Dichlorobenzene
2,4,6-Trichlorophenol
2,4-Dinitrophenol
2-Chloronaphthalene
2-Nitrophenol
4-Chloro-3-methylphenol
Acenaphthene
Benzo(a)anthracene
Benzo(g,h,i)perylene
Bis(2-chloroethoxy) methane
Chrysene
Dimethyl phthalate
Fluoranthene
Hexachlorobutadiene
Indeno(1,2,3-cd) pyrene
Nitrobenzene
N-Nitrosodiphenylamine
Phenol

APPENDIX D

TIER 1 RESIDENTIAL REMEDIATION OBJECTIVE TABLES

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
208-96-8	Acenaphthylene	2,300[b]	----[c]	24[b]	120	--	YES-NC
34256-82-1	Acetochlor[f]	1,600[b]	1,300[d]	5.9[b]	30	NA	YES-NC
107-02-8	Acrolein	39[b]	0.16[b]	0.014[b]	0.014	--	YES-NC
79-10-7	Acrylic Acid	39,000[b]	140[b]	14[b]	14	--	YES-NC
107-13-1	Acrylonitrile	1.2[e]	0.28[e]	0.0006[e]	0.0006	0.005	YES-NC/C
7429-90-5	Aluminum	78,000[b]	----[c]	3.5 mg/l (TCLP)	5.0 mg/l (TCLP)	--	
35572-78-2 & 19406-51-0	Aminodinitrotoluenes (total of 2-amino-4,6-dinitrotoluene & 4-amino-2,6-dintrotoluene)	16[b]	----[c]	0.031[b]	0.031	NA	YES-NC
62-53-3	Aniline	110[e]	84[b]	0.064[b]	0.064	1.5	YES-NC/C
25057-89-0	Bentazon[f]	2,300[b]	----[c]	2.5[b]	2.5	NA	YES-NC
100-52-7	Benzaldehyde	7,800[b]	1,400[d]	3.3[b]	3.3	NA	YES-NC
92-87-5	Benzidine	0.003[e]	0.009[e]	4.3E-06[e]	4.3E-06	NA	YES-C
191-24-2	Benzo(g,h,i)perylene	2,300[b]	----[c]	32,000[b]	160,000	--	YES-NC
100-51-6	Benzyl Alcohol	23,000[b]	6,900[d]	9.4[b]	9.4	--	
92-52-4	1,1-Biphenyl	3,900[b]	----[c]	120[b]	600	NA	YES-NC
39638-32-9	Bis(2-chloroisopropyl)ether	3,100[b]	1,300[d]	2.4[b]	2.4	--	YES-NC
314-40-9	Bromacil[f]	10,000[b]	----[c]	see Table C	see Table D	NA	

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
1689-84-5	Bromoxynil[f]	1,600[b]	----[c]	see Table C	see Table D	NA	
106-99-0	1,3-Butadiene	----[c]	0.05[e]	----[c]	----[c]	NA	
2008-41-5	Butylate[f]	3,900[b]	3,200[d]	170[b]	850	NA	YES-NC
104-51-8	n-Butylbenzene	780[b]	53[d]	11[b]	53	--	YES-NC
135-98-9	sec-Butylbenzene	780[b]	42[d]	15[b]	75	--	YES-NC
98-06-6	tert-Butylbenzene	780[b]	77[d]	6.5[b]	33	--	YES-NC
98-54-4	para-tert-Butylphenol	940[b]	----[c]	6.4[b]	32	NA	
105-60-2	Caprolactam	39,000[b]	----[c]	14[b]	14	NA	YES-NC
133-06-2	Captan[f]	10,000[b]	----[c]	14[b]	14	NA	
63-25-2	Carbaryl[f]	7,800[b]	----[c]	9.2[b]	9.2	NA	YES-NC
5234-68-4	Carboxin	7,800[b]	----[c]	6.4[b]	6.4	NA	
133-90-4	Chloramben[f]	1,200[b]	----[c]	0.42[b]	0.42	NA	YES-NC
109-69-3	1-Chlorobutane	31,000[b]	1,200[d]	31[b]	150	NA	YES-NC
75-00-3	Chloroethane	31,000[b]	1,500[d]	15[b]	70	--	YES-NC
74-87-3	Chloromethane	310[b]	110[b]	0.14[b]	0.68	--	YES-NC
91-58-7	beta-Chloronaphthalene	6,300[b]	----[c]	240[b]	1,200	--	YES-NC
95-49-8	o-Chlorotoluene	1,600[b]	1,400[d]	4[b]	20	--	
2921-88-2	Chlorpyrifos[f]	240[b]	----[c]	140[b]	680	--	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
5598-13-0	Chlorpyrifos Methyl[f]	780[b]	----[c]	48[b]	240	NA	YES-NC
98-82-8	Cumene (isopropylbenzene)	7,800[b]	480[b]	86[b]	430	--	YES-NC
21725-46-2	Cyanazine[f]	160[b]	----[c]	0.14[b]	0.14	--	YES-NC
108-94-1	Cyclohexanone	390,000[b]	660[d]	150[b]	150	--	
99-87-6	Cymene	----[c]	1,500[d]	----[c]	----[c]	NA	
1929-73-3	2,4-D butoxyethyl ester[f]	780[b]	770[d]	30[b]	150	--	YES-NC
1928-43-4	2,4-D Isooctyl ester[f]	780[b]	200[d]	4,600[b]	23,000	--	YES-NC
333-41-5	Diazinon[f]	70[b]	----[c]	0.58[b]	2.9	--	YES-NC
132-64-9	Dibenzofuran	310[b]	----[c]	15[b]	76	--	YES-NC
1918-00-9	Dicamba[f]	2,300[b]	----[c]	2.8[b]	2.8	NA	YES-NC
541-73-1	1,3-Dichlorobenzene	70[b]	570[d]	0.2[b]	1.0	--	YES-NC
75-71-8	Dichlorodifluoromethane	16,000[b]	250[b]	48[b]	240	--	
77-73-6	Dicyclopentadiene	2,300[b]	0.86[b]	12[b]	62	--	YES-NC
111-90-0	Diethylene Glycol Monoethyl Ether	160,000[b]	100,000[d]	56[b]	56	NA	YES-NC
131-11-3	Dimethyl Phthalate	780,000[b]	1,300[d]	380[b]	380	--	YES-NC
99-65-0	1,3-Dinitrobenzene	7.8[b]	----[c]	0.0036[b]	0.0036	0.25	YES-NC
534-52-1	4,6-Dinitro-o-cresol	27[b]	----[c]	See Table C	See Table D	33	
123-91-1	1,4-Dioxane	58[e]	100,000[d]	0.031[e]	0.031	--	YES-C
122-39-4	Diphenylamine	2,000[b]	----[c]	20[b]	100	NA	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
298-04-4	Disulfoton[f]	3.1[b]	820[d]	0.097[b]	0.49	--	YES-NC
759-94-4	EPTC[f]	2,000[b]	950[d]	3.6[b]	18	NA	YES-NC
55283-68-6	Ethalfluralin[f]	3,100[b]	190[d]	1,200[b]	5,800	NA	YES-NC
64-17-5	Ethanol	1,000,000[b]	100,000[d]	2,300[b]	2,300	NA	YES-NC
563-12-2	Ethion[f]	39[b]	----[c]	14[b]	72	NA	YES-NC
141-78-6	Ethyl Acetate	70,000[b]	10,000[d]	26[b]	26	--	
140-88-5	Ethyl Acrylate	13[e]	2,700[d]	0.0081[e]	0.0081	NA	YES-C
107-21-1	Ethylene Glycol	160,000[b]	100,000[d]	56[b]	56	NA	YES-NC
111-76-2	Ethylene Glycol Monobutyl Ether	39,000[b]	130,000[d]	15[b]	15	NA	YES-NC
60-29-7	Ethyl Ether	1,600[b]	3.1[d]	9.2[b]	46	NA	YES-NC
103-11-8	2-Ethylhexyl Acrylate	1,500[b]	230[d]	2.4[e]	2.4	NA	
944-22-9	Fonofos[f]	160[b]	700[d]	4.2[b]	21	NA	YES-NC
50-00-0	Formaldehyde	16,000[b]	15[e]	5.7[b]	5.7	--	YES-NC/C
98-01-1	Furfural	230[b]	2,400[b]	0.086[b]	0.086	NA	YES-NC
1071-83-6	Glyphosate[f]	7,800[b]	----[c]	See Table C	See Table D	NA	YES-NC
142-82-5	Heptane	----[c]	170[d]	----[c]	----[c]	NA	
87-68-3	Hexachlorobutadiene	16[b]	1,000[d]	2.9[b]	15	--	YES-NC
110-54-3	Hexane	4,700[b]	130[d]	32[b]	130[d]	--	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
591-78-6	2-Hexanone	3,100[b]	70[b]	1.3[b]	1.3	--	YES-NC
302-01-2	Hydrazine	0.21[e]	0.025[e]	0.0001[e]	0.0001[e]	NA	YES-C
81335-37-7	Imazaquin[f]	2,000[b]	-----[c]	See Table C	See Table D	NA	YES-NC
138261-41-3	Imidacloprid[f]	4,500[b]	-----[c]	1.65[a]	1.65	--	
7553-56-2	Iodine	1,300[b]	-----[c]	0.6 mg/l (TCLP)	NA	--	YES-NC
7439-89-6	Iron (CONTACT IEPA-TAU)						
78-83-1	Isobutanol	23,000[b]	11,000[d]	8.8[b]	8.8	--	YES-NC
67-63-0	Isopropanol	50,000[b]	100,000[d]	18[b]	18	NA	
121-75-5	Malathion[f]	1,600[a]	210[d]	1.9[b]	1.9	--	YES-NC
94-74-6	MCPA[f]	39[a]	-----[c]	See Table C	See Table D	0.43	YES-NC
93-65-2	MCPP[f]	78[b]	-----[c]	See Table C	See Table D	0.066	YES-NC
67-56-1	Methanol	39,000[b]	100,000[d]	14[b]	14	--	YES-NC
79-20-9	Methyl Acetate	78,000[b]	27,000[d]	7[b]	7	NA	YES-NC
59-50-7	3-Methyl-4-Chlorophenol	5,500[b]	-----[c]	24[b]	120	--	
108-87-2	Methylcyclohexane	-----[c]	120[d]	-----[c]	-----[c]	NA	YES-NC
101-14-4	Methylene bis(2-chloroaniline), 4,4'	4.9[e]	21[e]	0.0032[e]	0.016	NA	YES-NC/C
74-95-3	Methylene Bromide	780[b]	2,900[d]	0.35[b]	0.35	--	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
101-77-9	4,4'-Methylenedianiline	2.6[c]	----[c]	0.0019[c]	0.0019	NA	YES-C
78-93-3	Methyl Ethyl Ketone	47,000[b]	25,000[d]	17[b]	17	--	YES-NC
108-10-1	Methyl Isobutyl Ketone	----[c]	3,100[d]	----[c]	----[c]	--	
90-12-0	1-Methylnaphthalene	310[b]	990[d]	7.2[b]	36	NA	YES-NC
91-57-6	2-Methylnaphthalene	310[b]	----[c]	7.7[b]	39	--	YES-NC
108-39-4	3-Methylphenol	3,900[b]	15,000[d]	2.7[b]	2.7	NA	YES-NC
106-44-5	4-Methylphenol (p-cresol)	390[b]	----[c]	0.24[b]	0.24	0.66	YES-NC
109-06-8	2-Methylpyridine	78[b]	160,000[d]	0.03[b]	0.03	NA	YES-NC
51218-45-2	Metolachlor[f]	12,000[b]	3,900[d]	54[b]	270	NA	YES-NC
21087-64-9	Metribuzin[f]	2,000[b]	----[c]	2.1[b]	11	NA	YES-NC
88-74-4	2-Nitroaniline	----[c]	73[b]	----[c]	----[c]	--	YES-NC
55-63-0	Nitroglycerin	39[b]	330[d]	0.02[b]	0.02	NA	YES-NC
88-72-2	2-Nitrotoluene	780[b]	780[d]	0.79[b]	0.79	--	YES-NC
99-08-1	3-Nitrotoluene	780[b]	820[d]	1.0[b]	1.0	--	YES-NC
99-99-0	4-Nitrotoluene	780[b]	----[c]	0.92[b]	0.92	--	YES-NC
1910-42-5	Paraquat[f]	350[b]	----[c]	18[b]	89	NA	YES-NC
56-38-2	ethyl Parathion[f]	410[b]	210[d]	37[b]	190	--	YES-NC
40487-42-1	Pendimethalin[f]	3,100[b]	----[c]	1,400[b]	7000	NA	YES-NC
82-68-8	Pentachloronitrobenzene	240[b]	----[c]	28[b]	140	NA	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
14797-73-0	Perchlorate	70[b]	-----[c]	0.025 mg/l (TCLP)	0.025 mg/l (TCLP)	NA	YES-NC
85-01-8	Phenanthrene	2,300[b]	-----[c]	220[b]	1,100	--	YES-NC
298-02-2	Phorate[f]	16[b]	1600[d]	0.31[b]	1.6	--	YES-NC
1610-18-0	Prometon[f]	1,200[b]	-----[c]	See Table C	See Table D	NA	
109-60-4	n-Propyl Acetate	2,400[b]	3,200[d]	0.97[b]	0.97	NA	
103-65-1	n-Propylbenzene	780[b]	260[d]	2.6[b]	13	--	YES-NC
57-55-6	Propylene Glycol	1,000,000[b]	100,000[d]	560[b]	560	NA	YES-NC
107-98-2	Propylene Glycol Monomethyl Ether	55,000[b]	100,000[d]	20[b]	20	NA	YES-NC
110-86-1	Pyridine	78[b]	120,000[d]	0.029[b]	0.029	--	YES-NC
121-82-4	RDX	230[b]	-----[c]	0.36[b]	0.36	--	YES-NC
7440-24-6	Strontium	47,000[b]	-----[c]	4.2 mg/l (TCLP)	NA	--	
34014-18-1	Tebuthiuron[f]	5,500[b]	-----[c]	3.1[b]	3.1	NA	
79538-32-2	Tefluthrin[f]	390[b]	-----[c]	240[b]	1,200	NA	YES-NC
13071-79-9	Terbufos[f]	2.0[b]	770[d]	0.18[b]	0.89	NA	YES-NC
630-20-6	1,1,1,2-Tetrachloroethane	2,300[b]	1,000[d]	2.0[b]	10	--	YES-NC
79-34-5	1,1,2,2-Tetrachloroethane	4,700[b]	2,000[d]	3.3[b]	3.3	--	YES-NC
109-99-9	Tetrahydrofuran	16,000[b]	1,900[b]	5.8[b]	5.8	NA	YES-NC
137-26-8	Thiram[f]	390[b]	-----[c]	0.21[b]	0.21	NA	YES-NC
7440-31-5	Tin	47,000[b]	-----[c]	4.2 mg/l (TCLP)	-----[c]	--	YES-NC

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

		Exposure Route-Specific Values for Soils		Soil Component of the Groundwater Ingestion Exposure Route Values			
CAS No.	Chemical Name	Ingestion (mg/kg)	Inhalation (mg/kg)	Class I (mg/kg)	Class II (mg/kg)	ADL (mg/kg)	Mixtures
118-79-6	2,4,6-Tribromophenol	58[c]	1,400[c]	See Table C	See Table D	NA	
87-61-6	1,2,3-Trichorobenzene	780[b]	-----[c]	5.7[b]	29	--	YES-NC
75-69-4	Trichlorofluoromethane	23,000[b]	830[b]	33[b]	162	--	YES-NC
93-76-5	2,4,5-Trichlorophenoxyacetic acid	780[b]	-----[c]	6.6[b]	33	NA	YES-NC
96-18-4	1,2,3-Trichloropropane	0.092[e]	1,000[d]	0.0001[e]	0.0001	0.004	
1582-09-8	Trifluralin[f]	590[b]	-----[c]	340[b]	1,700	NA	YES-NC
526-73-8	1,2,3-Trimethylbenzene	3,900[b]	76[b]	15[b]	74	NA	YES-NC
95-63-6	1,2,4-Trimethylbenzene	3,900[b]	71[b]	18[b]	90	--	YES-NC
108-67-8	1,3,5-Trimethylbenzene	3,900[b]	45[b]	10[b]	51	--	YES-NC
99-35-4	1,3,5-Trinitrobenzene	2,300[b]	-----[c]	0.97[b]	0.97	--	YES-NC
479-45-8	2,4,6-Trinitrophenylmethylnitramine	780[b]	-----[c]	0.4[b]	0.4	--	YES-NC
118-96-7	2,4,6-Trinitrotoluene	39[b]	-----[c]	0.077[b]	0.077	NA	YES-NC

Footnotes:

TABLE A: Soil Remediation Objectives[a] for Residential Properties
Non-TACO Chemicals

Prepared by the Illinois EPA Toxicity Assessment Unit
October 1, 2004

Grey shading indicates that these values are provisional objectives and are subject to change. Please contact the IEPA Toxicity Assessment Unit for further information.

NA=not available; no SW-846 methods were available upon which acceptable detection limits could be established for water or soil.

*** "—" indicates that the ADL is less than or equal to the specified remediation objective.***

NC=chemical listed in target organ category for noncarcinogens.

C=chemical listed in target organ category for carcinogens.

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[a] Soil remediation objectives based on human health criteria only. Please consult the IEPA Toxicity Assessment Unit if there are concerns for ecological receptors.

[b] Calculated values correspond to a target hazard quotient of 1.

[c] No toxicity criteria available for the route of exposure.

[d] Soil saturation concentration.

[e] Calculated values correspond to a cancer risk level of 1 in 1,000,000.

[f] For agrichemical facilities, remediation objectives for surficial soils which are based on field application rates may be more appropriate for currently registered pesticides. Please consult the IEPA=s Toxicity Assessment Unit.

APPENDIX E

MATERIAL SAFETY DATA SHEETS

CONOCO INC -- NO. 2 DIESEL FUEL -- 9140-00-247-4356

========== Product Identification ==========

Product ID:NO. 2 DIESEL FUEL
MSDS Date:10/01/1990
FSC:9140
NIIN:00-247-4356
MSDS Number: BPHYQ
=== Responsible Party ===
Company Name:CONOCO INC
Address:600 N DAIRY ASHFORD RD RM 3012
Box:4784
City:HOUSTON
State:TX
ZIP:77210-4784
Country:US
CAGE:15445
=== Contractor Identification ===
Company Name:CONOCO INC
Address:600 N DAIRY ASHFORD RD RM 3012
Box:4784
City:HOUSTON
State:TX
ZIP:77210-4784
Country:US
Phone:800-441-3637/800-424-9300(CHEMTREC)
CAGE:15445
Company Name:MANASSAS ICE AND FUEL CO (MIFCO)
Address:9009 CENTER STREET
Box:City:MANASSAS
State:VA
ZIP:22110-5403
Country:US
Phone:703-368-3121
CAGE:2P282

========== Composition/Information on Ingredients ==========

Ingred Name:HYDROCARBONS
Fraction by Wt: >90%
Other REC Limits:NONE RECOMMENDED

Ingred Name:NAPHTHALENE (SARA III)
CAS:91-20-3
RTECS #:QJ0525000
Fraction by Wt: 3%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:10 PPM/15 STEL
ACGIH TLV:10 PPM/15 STEL; 9293
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:IT IS HIGHLY UNLIKELY THAT HUMAN
EXPOSURE AT OR BELOW THE RECOMMENDED EXPOSURE LEVEL POSES A

SIGNIFICANT HEALTH HAZARD. IN THIS REGARD, GOOD WORKPLACE PRACTICES & PROPER ENGINEERING DESIGN WILL MINIMI ZE EXPOSURE.
Explanation of Carcinogenicity:THIS MATERIAL IS NOT KNOWN TO CONTAIN ANY CHEMICAL LISTED AS CARCINOGEN OR SUSPECTED CARCINOGEN BY OSHA, IARC OR NTP.
Effects of Overexposure:THE PRODUCT CONTAINS PETROLEUM HYDROCARBON, & AS WITH MANY PETROLEUM PRODUCTS, IT MAY CAUSE IRRITATION TO THE EYES, SKIN & LUNGS AFTER PROLONGED OR REPEATED EXPOSURE. OVEREXPOSURE MAY CAUSE WEAKNESS, HEADACHE, DIZZINESS, SLURRED SPEECH, FLUSH FACE, UNCONSCIOUSNESS OR CONVULSION. NAPTHALENE IS A POTENTIAL IRRITANT.
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

========== First Aid Measures ==========

First Aid:EYE: IMMEDIATELY FLUSH EYES WITH WATER 15 MIN. CALL A PHYSICIAN. SKIN: IMMEDIATELY WASH SKIN WITH SOAP & WATER. IF IRRITATION DEVELOPS, CONSULT A PHYSICIAN. INHALED: REMOVE TO FRESH AIR. IF NOT BREATH ING, GIVE CPR. IF BREATHING IS HARD, GIVE OXYGEN. CALL PHYSICIAN. INGESTION: DO NOT INDUCE VOMITING. IMMEDIATELY GIVE 2 GLASSES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

========== Fire Fighting Measures ==========

Flash Point Method:TCC
Flash Point:130F,54C
Autoignition Temp:Autoignition Temp Text:536F
Lower Limits:0.4
Upper Limits:6
Extinguishing Media:WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, FOAM. USE WATER TO KEEP FIRE EXPOSED CONTAINERS COOL.
Fire Fighting Procedures:IF A LEAK OR SPILL HAS NOT IGNITED, USE WATER TO DISPERSE THE VAPORS & TO PROTECT FIRE PERSONNEL. WATER MAY BE USED TO FLUSH SPILLS AWAY FROM EXPOSURE AREAS.
Unusual Fire/Explosion Hazard:PRODUCTS OF COMBUSTION MAY CONTAIN CARBON MONOXIDE, CARBON DIOXIDE & OTHER TOXIC MATERIALS. DO NOT ENTER ENCLOSED AREA WITHOUT PROTECTION.

========== Accidental Release Measures ==========

Spill Release Procedures:DIKE SPILL. PREVENT LIQUID FROM ENTERING SEWERS, WATERWAYS OR LOW AREAS. SOAK UP WITH SAWDUST, SAND, OIL OR OTHER ABSORBENT MATERIAL. SHOVEL OR SWEEP UP. USE EXPLOSION-PROOF EQUIPMENT FOR CLEANUP. ELI MINATE IGNITION SOURCES.
Neutralizing Agent:NONE

========== Handling and Storage ==========

Handling and Storage Precautions:KEEP AWAY FROM HEAT, SPARKS, & FLAMES. KEEP CONTAINER TIGHTLY CLOSED. USE OF NONSPARKING & EXPLOSION-PROOF EQUIPMENT MAY BE NEEDED.
Other Precautions:NOTE: REVIEW FIRE & EXPLOSION HAZARD & SAFETY PRECAUTIONS BEFORE PROCEEDING WITH CLEANUP. USE APPROPIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN-UP. NOTE: VAPORS RELEASED FROM THE SPILL MAY CREATE AN EXPLOSIVE ATMOSPHERE.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:SELECT APPROPIATE NIOSH/MSHA RESPIRATOR

PROTECTION WHEN NEEDED TO AVOID INHALATION OF MIST OR VAPORS AND TO MAINTAIN EXPOSURE BELOW ACCEPTABLE LIMITS.
Ventilation:NATURAL OR GENRAL VENTILATION NORMALLY ADEQUATE.
Protective Gloves:NBR OR NEOPRENE RECOMMENDED.
Eye Protection:SAFETY GLASSES,OR SPLASH GOGGLES.
Other Protective Equipment:COVERALLS IF SPLASHING IS PROBABLE. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.
Work Hygienic Practices:USE GOOD CHEMICAL HYGIENE PRACTICE. AVOID UNNECESSARY CONTACT. MINIMIZE ALL CONTACT
Supplemental Safety and Health
AVOID CONTACT WITH EYES, SKIN OR CLOTHING. NOTE TO PHYSICIAN: ACTIVATED CHARCOAL SLURRY MAY BE ADMINISTERED. TO PREPARE CHARCOAL SLURRY, SUSPEND 50 GRAMS ACTIVATED CHARCOAL IN 400 ML WATER & MIX THORO UGHLY. ADMINISTER 5ML/KG, OR 350 ML, FOR AN AVERAGE ADULT.

========== Physical/Chemical Properties ==========

HCC:F4
Boiling Pt:B.P. Text:350F,177C
Vapor Pres:1
Vapor Density:>1.0,AIR=1
Spec Gravity:0.85-0.93
Solubility in Water:INSOLUBLE
Appearance and Odor:CLEAR OR LIGHT YELLOW LIQUID; AROMATIC ODOR.
Percent Volatiles by Volume:NIL

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
OXIDIZING MATERIALS.
Stability Condition to Avoid:HEAT AND FLAME.
Hazardous Decomposition Products:CARBON MONOXIDE MAY BE FORMED FROM INCOMPLETE COMBUSTION.

========== Disposal Considerations ==========

Waste Disposal Methods:DO NOT FLUSH TO SURFACE WATER OR SANITARY SEWER SYSTEM. BY ITSELF THE LIQUID IS EXPECTED TO BE A RCRA-IGNITABLE WASTE. TREARMENT, STORAGE, TRASNPORTATION & DISPOSAL MUST BE IN ACCORDANCE WITH APPLICA BLE FEDERAL, STATE/PROVINCIAL & LOCAL REGULATIONS.

US OIL CO INC -- NO. 2 DIESEL FUEL/FURNACE OIL/DIESEL FUEL L -- 9140-00-247-4362

========== Product Identification ==========

Product ID:NO. 2 DIESEL FUEL/FURNACE OIL/DIESEL FUEL L
MSDS Date:06/01/1989
FSC:9140
NIIN:00-247-4362
MSDS Number: BPHYR
=== Responsible Party ===
Company Name:US OIL CO INC
Address:425 S WASHINGTON AVE
City:COMBINED LOCKS
State:WI
ZIP:54113-1049
Country:US
Info Phone Num:414-739-6100
Emergency Phone Num:414-739-6100, CHEMTREC 800-424-9300
CAGE:KO841
=== Contractor Identification ===
Company Name:U S OIL CO INC
Address:558 CARTER CT
Box:City:KIMBERLY
State:WI
ZIP:54136
Country:US
Phone:920-735-8287
CAGE:9V710
Company Name:US OIL CO INC
Address:425 S WASHINGTON AVE
Box:City:COMBINED LOCKS
State:WI
ZIP:54113-1049
Country:US
Phone:414-739-6100
CAGE:KO841

========== Composition/Information on Ingredients ==========

Ingred Name:HYDROCARBONS (ALIPHATIC AND AROMATIC)
Fraction by Wt: >90%
Other REC Limits:400 PPM

Ingred Name:NAPHTHALENE (SARA III)
CAS:91-20-3
RTECS #:QJ0525000
Fraction by Wt: 3.0%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:10 PPM/15 STEL
ACGIH TLV:10 PPM/15 STEL; 9293
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:EYES:IRRITATION. SKIN:SKIN IRRITANT.
INHALATION:LUNG IRRITATION, CNS EFFECTS. INGESTION:PRACTICALLY

NON-TOXIC TO INTERNAL ORGANS. HOWEVER, IF ASPIRATED INTO LUNGS IT MAY CAUSE CHEMICAL PNEUMONITIS WHI CH CAN BE FATAL. CHRONIC:MIDDLE DISTILLATE HAS CAUSED SKIN CANCER WHEN REPEATEDLY APPLIED TO MICE OVER LIFETIME,KIDNEY.
Explanation of Carcinogenicity:WHOLE DIESEL ENGINE EXHAUST IS LISTED AS A PROBABLE CARCINOGEN BY IARC AND NIOSH.
Effects of Overexposure:SKIN:IRRITAION, DRYING EFFECT. INHALATION: HEADACHE, DIZZINESS, LOSS OF APPETITE, WEAKNESS AND LOSS OF COORDINATION.
Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

========== First Aid Measures ==========

First Aid:EYES:FLUSH WITH FRESH WATER FOR 15 MINUTES. SKIN: REMOVE CONTAMINATED CLOTHING. WASH SKIN THOROUGHLY WITH SOAP AND WATER. SEE A DOCTOR IF SYMPTOMS DEVELOP. INHALATION: REMOVE TO FRESH AIR. INGESTION: GIVE WATER OR MILK TO DRINK AND GET IMMEDIATE MEDICAL ATTENTION. DO NOT MAKE PERSON VOMIT UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL.

========== Fire Fighting Measures ==========

Flash Point Method:TCC
Flash Point:130F,54C
Lower Limits:0.4
Upper Limits:6
Extinguishing Media:USE WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.
Fire Fighting Procedures:WEAR FIRE FIGHTING PROTECTIVE EQUIPMENT AND A FULL FACED SELF CONTAINED BREATHING APPARATUS. EVACUATE AREA. COOL FIRE EXPOSED CONTAINERS WITH WATER SPRAY.
Unusual Fire/Explosion Hazard:COMBUSTION OR HEAT OF FIRE MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS AND VAPORS. LIQUID EVAPORATES AND FORMS VAPORS WHICH CAN CATCH FIRE WITH VIOLENT BURNING

========== Accidental Release Measures ==========

Spill Release Procedures:THIS MATERIAL IS CONSIDERED TO BE A WATER POLLUTANT AND RELEASES OF THIS PRODUCT SHOULD BE PREVENTED. ELIMINATE ALL OPEN FLAMES. STOP SOURCE OF THE LEAK. CONTAIN LIQUID. CLEAN UP SPILL USING APPROPRIA TE TECHNIQUES SUCH AS ABSORBENT MATERIALS.
Neutralizing Agent:NONE

========== Handling and Storage ==========

Handling and Storage Precautions:STORE IN A COOL AREA. KEEP CONTAINER LID TIGHTLY CLOSED.
Other Precautions:DO NOT INHALE VAPORS OR EXHUST FUMES, AVOID SKIN CONTACT.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:NONE NORMALLY REQUIRED. USE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS IF TLV IS EXCEEDED OR WHEN SPRAYING OR USING IN CONFINED SPACES.
Ventilation:USE THIS MATERIAL ONLY IN WELL VENTILATED AREAS.
Protective Gloves:PVC
Eye Protection:GOGGLES
Other Protective Equipment:WEAR PROTECTIVE CLOTHINGS.

Work Hygienic Practices:WASH HANDS THOROUGHLY AFTER HANDLING THIS PRODUCT.
Supplemental Safety and Health
NONE

========== Physical/Chemical Properties ==========

HCC:F4
Boiling Pt:B.P. Text:350F,177C
Vapor Pres:1
Vapor Density:>1
Spec Gravity:0.85-0.93
Solubility in Water:INSOLUBLE
Appearance and Odor:CLEAR OR LIGHT YELLOW LIQUID, AROMATIC ODOR
Percent Volatiles by Volume:NIL

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS
Stability Condition to Avoid:HIGH HEAT, OPEN FLAMES AND OTHER SOURCES OF IGNITION
Hazardous Decomposition Products:TOXIC CARBON MONOXIDE AND CARBON DIOXIDE, AND SULFUR DIOXIDE.

========== Disposal Considerations ==========

Waste Disposal Methods:PLACE CONTAMINATED MATERIALS IN DISPOSABLE CONTAINERS AND DISPOSE OF IN A MANNER CONSISTENT WITH APPLICABLE REGULATIONS. CANTACT LOCAL ENVIRONMENTAL OR HEALTH AUTHORITIES FOR APPROVED DISPOSAL OF THIS MATERIAL.

APPENDIX F

INCIDENT FORMS

Approved By:

Signature on File	Signature on File
Richard L. Barcum, CIH, CSP, CHMM	David D. Alleman, CPA
Manager, Corporate Health and Safety	Vice President, CFO

Procedure

INCIDENT PREVENTION PROGRAM: REPORTING, INVESTIGATION, AND REVIEW

1.0 PURPOSE AND SUMMARY

The purpose of this procedure is to establish the requirements for incident reporting, investigation, and review. This procedure is an integral part of the company's overall incident prevention program and aids in the determination of causal factors and corrective actions necessary to prevent incident re-occurrence. Key elements of this procedure include:

- **Prompt reporting and investigation of all occupational injuries/illness, vehicle incidents, property damage incidents, and near miss incidents.**
- Review by an Incident Review Board of all Occupational Safety and Health Administration (OSHA) recordable injuries/illnesses and at-fault vehicle incidents. The Incident Review Board report is submitted/approved up through management to the appropriate Vice President.
- Immediate reporting to the Manager, Corporate Health and Safety, all incidents involving a fatality, injury/illness, or resulting in property damage in excess of $1000.

2.0 RESPONSIBILITY MATRIX

2.1 Procedure Responsibility

The Manager, Corporate Health and Safety is responsible for the issuance, revision and maintenance of this procedure.

3.0 DEFINITIONS

3.1 **Company** - TolTest, Incorporated.

3.2 **OSHA Recordable Case** – All work-related fatalities and illnesses and those work-related injuries which result in loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid.

3.3 **Lost Workday Case** – Cases which involve days away from work or days of restricted work activity or both. Days away from work are the number of work days (consecutive or not), excluding the date of injury, the employee **would have worked**, but could not because of occupational injury or illness; and/or the number of work days (consecutive or not), excluding the date of injury, on which, because of injury or illness:

- The associate was assigned to another job on a temporary basis, or
- The associate worked at a permanent job less than full time, or
- The associate worked at a permanently-assigned job, but could not perform all duties **normally** connected with it.

3.4 **Near Miss Incident** – Any incident where no injury or property damage occurred, but where the potential for injury or property damage existed.

3.5 **At-Fault Vehicle Incident** – Any vehicle incident will be considered an At-Fault Incident when specific action or inaction by a TolTest associate or subcontract employee directly contributed to the cause and/or severity of the incident.

3.6 **Vehicle** – Any vehicle, including trucks, used upon the highway or in private facilities for transporting passengers and/or property. For the purpose of this procedure, off-road vehicles such as earthmoving equipment, forklifts, non-highway used trucks, etc. are not considered vehicles.

3.7 **Property Damage Incident** – Any incident, in which a company associate or subcontractor is a party which results in property damage, regardless of ownership, in excess of $1000. For the purpose of this procedure, off-road vehicles such as earthmoving equipment, forklifts, non-highway used trucks, etc. are considered property, even if the equipment is rented.

4.0 TEXT

4.1 Incident Reporting Process

Associates are required to immediately report to their direct supervisor all occupational injuries, illnesses, incidents and near miss incidents that have the potential for injury.

Any supervisor (but preferably the supervisor directly responsible for the involved associate(s)) with first-hand knowledge of the incident is required to ***immediately*** arrange for appropriate medical attention, *including drug and alcohol testing*, and contact the Manager, Corporate Health and Safety, **prior**

to the associate receiving medical treatment (not applicable for life threatening situations). See Section 4.8 for the requirements regarding post incident drug and alcohol screening.

Prior to an injured associate returning to his/her job duties, a medical release shall be provided to the Manager, Corporate Health and Safety. The medical release shall be completed and signed by the attending physician and include probable release date, work restrictions (if any), dates of restrictions (if any), medicine prescribed (if any) and the date(s) of any required medical follow-up(if any).

If the supervisor does not feel that they will be able to accommodate the work restrictions, approval by the Manager, Corporate Health and Safety **and** the Manager, Human Resources is required **prior** to sending the associate home.

- The supervisor is to initiate/complete the appropriate company documentation in accordance with the following incident classifications:

  - Injury/Illness
    a. Associate Injury Report (Attachment 1)
    b. Incident Investigation Report (Attachment 3)

  - Vehicle Incidents
    a. Vehicle Incident Report (Attachment 4)
    b. Incident Investigation Report (Attachment 3)

  - Near Miss
    a. Incident Investigation Report (Attachment 3)

  - Property Damage/General Liability
    a. General Liability, Property Damage, and Loss Report (Attachment 2)
    b. Incident Investigation Report (Attachment 3)

All forms, with the exception of the Incident Investigation Report, must be completed and forwarded to the Manager, Corporate Health and Safety within **one** business day of the incident.

4.2 Associate Injury Report

The Associate Injury Report (Attachment 1) is to be completed for all incidents that result in an associate occupational injury or illness. It is to be initiated by the supervisor or the injured employee. The Manager, Corporate

Health and Safety must receive a **completed** copy (including all signatures) of the report within one business day of the incident.

4.3 Vehicle Incident Report

The Vehicle Incident Report (Attachment 4) must be completed for any vehicle incident in which a company vehicle is involved. This includes company-owned or leased vehicles, rental vehicles, and personal vehicles being used for company business. This report is to be initiated by the associate involved in the incident or his/her direct supervisor. The Manager, Corporate Health and Safety must receive a **completed** copy (including all signatures) of the report within one business day of the incident.

4.4 General Liability, Property Damage, and Loss Report

The General Liability, Property Damage and Loss Report (Attachment 2) is to be used for all losses or damage to company property in excess of $1000. This form must be completed for all third party property damage, regardless of value, which occurred as a result of company activities. The associate most familiar with the events that contributed to the loss or damage will initiate the form, then forward it to the supervisor responsible for the project where the damage occurred. The Manager, Corporate Health and Safety must receive a **completed** copy (including all signature) of the report within one business day of the incident.

4.5 Incident Investigation Report

All injuries, illnesses, incidents, and near miss incidents will be investigated. Once arrangements for immediate medical care have been made, the associate's direct supervisor, with assistance from the appropriate Corporate Health and Safety Committee Representative and/or the Manager, Corporate Health and Safety, will:

- Reconstruct the conditions which lead to the incident (collect the facts)
- Describe and document (include sketch, photos, etc.) how the incident occurred.
- List witnesses and collect written statements when possible
- Identify and discuss the causative factors
- Identify the unsafe act(s) or unsafe condition(s) that contributed to the incident
- Identify possible systematic/management deficiencies

- List corrective action(s) which are to be taken to prevent re-occurrence of the incident, the person responsible for the corrective action, and the date by which the action(s) is/are to be completed.

The investigation will be started as soon as possible after the incident and a **completed** (i.e. including signatures) written report (Attachment 3) submitted to the Manager, Corporate Health and Safety within 3 business days.

4.6 Insurance Notification

Notification to the appropriate insurance carrier is the responsibility of the Health and Safety Department. No other individuals are authorized to contact an insurance carrier to report an incident.

4.7 Post Incident Drug and Alcohol Screening

Post incident drug and alcohol screening is required for the following associates:

- Associate's who receive **off site medical evaluation or treatment** as a result of an injury.
- Associate's who are at fault in a **vehicle incident** or **property damage** incident resulting in greater than **$1,000 damage.**
- Associate's involved in **near misses and/or minor injuries** in which the **potential consequence** was much more **severe** than the actual result of the incident. This should be at the discretion of the Supervisor with the concurrence of a member of the Corporate Health and Safety Committee Representative.

5.0 EXCEPTION PROVISIONS

Variances to this procedure shall be requested in accordance with established variance procedures.

6.0 ATTACHMENTS

1. Associate Injury Report
2. General Liability, Property Damage, and Loss Report
3. Incident Investigation Report
4. Vehicle Incident Report

ATTACHMENT 1
ASSOCIATE INJURY REPORT

This report is to be initiated by the associate's supervisor. Please answer all questions completely. This report must be forwarded to the Manager, Corporate Health and Safety within 24 hours of the injury/illness.

Injured's Name _____ Sex _____ SSN _____ Birth Date _____

Home Address _____

City _____ State _____ Zip _____ Phone ( ) _____

Job Title _____ Hire Date _____ Hourly Wage _____

ASSOCIATE

Date of Incident _____ Time _____ Time Reported _____ To Whom? _____

Project/Department Name _____ Address _____

Project No _____ Time Shift Began _____ Did Associate Leave Work? No Yes When? _____

Has associate returned to work? No Yes When _____ Did associate miss a regularly scheduled shift? No Yes

Doctor/Hospital Name _____ Address _____

Witness Name(s) _____ Statement Attached? No Yes

Nature of Injury _____ Exact Body Part _____

Medical Attention: None First Aid On Site Doctor's Office Hospital ER Hospitalized

Job Assignment at Time of Incident _____

Describe Incident _____

Associate: _____ (Print) _____ (Signature) _____ (Date)

SUPERVISOR

Comments on Incident and Corrective Action(s) _____

What Unsafe Condition(s) and/or Act(s) Contributed to the Incident? _____

What Corrective Action(s) Have Been Taken to Prevent Recurrence? _____

Supervisor: _____ (Print) _____ (Signature) _____ (Date)

ASSOCIATE INJURY REPORT

CONTINUED

Concur With Action Taken? Yes No Remarks _____

OSHA Classification: First Aid Recordable, No Lost/Restricted Workdays

Recordable, Lost Workdays Recordable, Restricted Activity Fatality

Days Away From Work _____ Days Restricted Work _____

Worker's Compensation Claim Number (if applicable) _____

TolTest Tracking No. _____

Verbal Received (Date/Time) _____ Report Received (Date/Time) _____

Drug Screen Yes No Alcohol Screen Yes No

Manager, Corporate Health and Safety:

Print	Signature	Date

Manager, Corporate Health and Safety

A. Type of Injury or Illness Code: _____ E. Agent Code: _____

B. Injured Body Part Code: _____ F. Safety Rule Violated Code: _____

C. Activity at Time of Incident Code: _____ G. Incident Prevention Code: _____

D. Injury Cause Code: _____ H. Instruction/RE-Instruction Code: _____

ATTACHMENT 2
GENERAL LIABILITY, PROPERTY DAMAGE AND LOSS REPORT

This report is to be completed for all losses or damage to company property in excess of $1000 and all third party damage, regardless of value, resulting from company activities.

Project/Department/Location _____ Project No. _____ Date _____

Address _____

How Did Damage or Loss Occur: _____

_____

_____

Description and Value ($) of Damaged/Lost/Stolen Property:

_____

Location of Damaged/Lost/Stolen Property (Before Loss): _____

Date and Time of Damage, Loss or Theft: _____

Owner of Damaged/Lost/Stolen Property:

Name _____ Phone No. ( ) _____

Address _____ City _____

Employer and Address _____

Injured Parties (Also completed a Supervisor's Associate Injury Report if a Company Associate):

Name _____ Phone No. ( ) _____

Address _____ City _____

Employer and Address _____

Description of Injury _____

Witnesses:

1. Name _____ Phone No. ( ) _____

   Address _____ City _____

   Employer and Address _____

2. Name _____ Phone No. ( ) _____

   Address _____ City _____

   Employer and Address _____

Were Pictures Taken? Yes No
Were Police Notified? Yes No Dept _____ Report No. _____

Completed By:

_____ _____ _____
Print Signature Date

Manager, Corporate Health and Safety:

_____ _____ _____
Print Signature Date

ATTACHMENT 3
INCIDENT INVESTIGATION REPORT

*** MUST BE COMPLETED WITHIN 72 HOURS ***

Investigation Date _____ Date of Incident _____

Employee Name _____

Supervisor Name _____

Dept. Name/Project Number/Project Name _____

Location of Incident _____

- Incident Classification

Injury	First Aid	Vehicle	Chargeable	DOT	DOT Vehicle
	OSHA Recordable		Non-Chargeable		DOT Reportable
	Lost Workday				
	Restricted Workday	Near Miss		General Liability	

- Description (Provide facts, describe how incident occurred, provide diagram [on back] or photos)

_____

_____

_____

- Analysis 1 (What unsafe acts or conditions contributed to the incident?)

_____

_____

_____

- Analysis 2 (What systematic or management deficiencies contributed to incident?)

_____

_____

- Corrective Action(s) (List corrective action items, responsible person, scheduled completion date)

_____

_____

_____

_____

- Witnesses (Attach statements or indicate why unavailable)

_____

_____

Investigated By _____ (Print) _____ (Signature) _____ (Date)

Manager, Corp. Health and Safety _____ (Print) _____ (Signature) _____ (Date)

ATTACHMENT 4
VEHICLE INCIDENT REPORT

INCIDENT DESCRIPTION

This report is to be initiated by the associate involved in the incident or his/her direct supervisor. Please answer all questions completely. This report must to forwarded to the Manager, Corporate Health and Safety within 24 hours of the incident.

INCIDENT DATE _____ TIME _____ A.M. or P.M.
LOCATION OF INCIDENT (ADDRESS, CITY AND STATE) _____
DESCRIPTION OF INCIDENT _____

WITNESS _____ PHONE NO. ( ) _____
ADDRESS _____ CITY _____ STATE _____ ZIP _____
POLICE OFFICER'S NAME _____ DEPARTMENT _____

COMPANY VEHICLE

DRIVER _____ DRIVERS LICENSE _____ STATE _____
ADDRESS _____ CITY _____ STATE ____ ZIP: _____
WORK PHONE NO ( ) _____ SSN _____ PROJECT NAME/NO _____ OFFICE/DEPT _____
VEHICLE NO ____ YEAR _____ MAKE _____ MODEL _____ LICENSE PLATE NO _____
STATE _____ VEHICLE OWNER ___ COMPANY ___ LEASED/RENTED ___ PRIVATE VEHICLE
VEHICLE TYPE ___ COMMERCIAL MOTOR VEHICLE ___ NON COMMERCIAL
IF NOT COMPANY-OWNED: OWNER _____ PHONE NO ( ) _____
ADDRESS _____ CITY _____ STATE ___ ZIP _____
VEHICLE DAMAGE _____
NO. OF VEHICLES TOWED FROM SCENE ___ NUMBER OF INJURIES ____ NUMBER OF FATALITIES ____
WERE HAZARDOUS MATERIALS RELEASE? ___ YES ___ NO IF YES, DESCRIBE MATERIALS _____

OTHER VEHICLE

DRIVER _____ DRIVERS LICENSE _____ STATE _____
ADDRESS _____ CITY _____ STATE ____ ZIP
PHONE NO ( ) _____ SSN _____
OWNERS NAME (CHECK IF SAME AS DRIVER __) _____
ADDRESS _____ CITY _____ STATE ____ ZIP _____
INSURANCE COMPANY _____ POLICY NO _____
ADDRESS _____ CITY _____ STATE ___ ZIP
VEHICLE: YEAR ____ MAKE _____ MODEL _____ PLATE NO _____ STATE _____
VEHICLE IDENTIFICATION NUMBER _____
VEHICLE DAMAGE _____
PASSENGERS YES NO INJURIES YES (List names and telephone numbers below) NO

WEATHER ____ CLEAR ___ CLOUDY ___ FOG ___ RAIN
____ SLEET ___ SNOW ___ OTHER _____

PAVEMENT ____ ASPHALT ___ STEEL ___ CONCRETE ___ WOOD
____ GRAVEL/DIRT ___ BRICK/STONE ___ OTHER

CONDITION ____ DRY ___ WET ___ ICY ___ POTHOLES
OTHER _____

TRAFFIC CONTROL ____ TRAFFIC LIGHT ___ STOP SIGN ___ RAILROAD
____ NO INTERSECTION ___ NO CONTROL

VEHICLE INCIDENT REPORT
(continued)

ROADWAY NUMBER OF LANES EACH DIRECTION ___ ___ RESIDENTIAL
_____ DIVIDED HIGHWAY ___ UNDIVIDED HIGHWAY

Draw and name roadways showing each vehicle, direction of travel, and point of impact. Indicate travel direction before the incident with a solid line and post-incident movement with a broken line.

SYMBOLS:

Your Vehicle ①

Other Vehicle(s) ②

③

Pedestrian

Stop Sign

Yield

Railroad

ADDITIONAL INFORMATION: _____

ASSOCIATE _____ (Print) _____ (Signature) _____ (Date)

SUPERVISOR _____ (Print) _____ (Signature) _____ (Date)

CORPORATE HEATLH & SAFETY MNGR. _____ (Print) _____ (Signature) _____ (Date)

HEALTH & SAFETY DEPARTMENT

TRACKING # _____ INCIDENT REPORT ORDERED _____ AT FAULT Y N

ORIGINAL: ___ H&S FILE D&A SCREEN DEFENSIVE DRIVING Y N

CC: ___ ASSOCIATE ___ DEPT. SAFETY REP ___ W/C FILE ___ DENISE

APPENDIX G

ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

ACTIVITY Site Preparation/Layout ANALYZED BY/DATE K. Helman 10/98 REVIEWED BY/DATE J. Tinney 01/01

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Site walk through Identification of work zones for construction activities	1.Exposure to irritant and toxic plants such as poison ivy and sticker bushes may cause allergic reactions. 2. Surfaces covered with heavy vegetation and under growth create a tripping hazard. 3. Back strain due to carrying instruments. 4. Native wildlife such as rodents, ticks, and snakes present the possibility of insect bites and associated diseases such as Lyme disease. 5. Driving vehicles on uneven or unsafe surfaces can result in accidents such as overturned vehicles or flat tires. 6. Electrical hazard due to fallen lines. 7. Thermal stress due to hot/cold temperature extremes.	1. Wear long sleeved clothing and slacks to minimize contact with irritant and toxic plants and to protect against insect bites. Appropriate first aid for personnel's known allergic reactions. 2. Be alert and observe terrain while walking to minimize slips and falls. Steel-toed boots provide additional support and stability. 3. Use proper lifting techniques to prevent back strain. 4. Avoid wildlife when possible. In case of an animal bite, perform first aid and capture the animal, if possible, for rabies testing. Perform a tick check after leaving a wooded or vegetated area. 5. Ensure all maintenance is performed on vehicles before going to the field. Site surveillance on foot might be required to choose clear driving paths. 6. Ensure fallen power lines are not energized. 7. Implement thermal stress management techniques such as shifting work hours, fluid intake, and monitoring employees, especially high risk
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
		1. Review hazard analysis with personnel performing the site walk through prior to start

ACTIVITY HAZARD ANALYSIS

ACTIVITY Soil Excavation ANALYZED BY/DATE K. Helman 10/98 REVIEWED BY/DATE J. Tinney 01/01

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Excavation	1. Exposure to airborne contaminants released during intrusive activities. 2. Sides of excavation can cave in. Possible burying or crushing of workers due to 1) absence of shoring, 2) misjudgment of stability, 3) defective shoring, and/or 4) undercut sides. 3. Falling during access/egress or while monitoring or dismounting equipment, or stumbling into excavation. 4. Congested work area due to too many workers in a small area. 5. Existing utilities.	1. Monitor for airborne contaminants. 2. Regularly inspect trenches for conditions. 3.Provide adequate shoring or sloping of sides of the excavation Solid rock, cemented sand or gravel = 90 degrees Compact angular gravel = 63 degrees 26 ft. Compacted sharp sand = 33 degrees 41 ft. deep Rounded loose sand = 26 degrees 34 ft. deep 4. Provide an adequate barrier around open pits. Material from pit must be placed away from edge to prevent cave ins and instability of pit. 5. To prevent overexertion, limit manual lifting and emphasize mechanical means where practical. *6. Maintain ample workroom between workers.* 7.Find and mark utilities before excavating utilizing the Joint Utility Locating Information for Excavators (JULIE) service 72 hours prior to excavation activities. Use care while excavating, shore existing utilities crossing excavation area. Watch for overhead lines. 8. Check the performance of JULIE locate prior to digging.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1. Backhoe	Daily, prior to use per manufactures recommendations, Fill our Safety Inspection Checklist	OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, Respirator and operator training
2. Rolloff Boxes	Use of assistive climbing equipment when covering or placing tarp on box	

TOLTEST, INC.

ACTIVITY HAZARD ANALYSIS

ACTIVITY Tank Removals ANALYZED BY/DATE R.R. Beckwith 11/93 REVIEWED BY/DATE J. Tinney 01/01

Error! Bookmark not defined.PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Tank Cleaning	1. Exposure to airborne contaminants released during intrusive activities. 2. Flammable atmospheres encountered area. 3. Possible crushing of workers due to inadequate working space. 4. Falling during access/egress or while monitoring or dismounting equipment. 5. Congested work area due to too many workers in a small area.	1. Monitor for airborne contaminants. 2. Use personal protective equipment. 3. Material from demolition must be placed away from work area to prevent personnel injury and equipment damage. 4. To prevent overexertion, limit manual lifting and emphasize mechanical means where practical. 5. Maintain ample work room between workers.
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Pressure washer	1. Fill out Safety Inspection Checklist	1. Train personnel to fill out ORD Form 892
Vacuum trucks	2. Fill out Safety Inspection Checklist	2. Train personnel to fill out ORD Form 892

ACTIVITY HAZARD ANALYSIS

ACTIVITY Tank Removals ANALYZED BY/DATE R.R. Beckwith 11/93 REVIEWED BY/DATE J. Tinney 01/01

Error! Bookmark not defined.PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Tank Purging/Inerting	1. Exposure to airborne contaminants released during activities. 2. Flammable atmospheres encountered area. 3. Sparking and explosion hazards. 4. Exposure to low oxygen atmospheres due to CO_2 or liquid nitrogen. 5. Skin exposure to dry ice.	1. Continuous combustible gas/oxygen and air monitoring will be conducted. 2. Use personal protective equipment. 3. Use only nonsparking tools or non-heat producing tools. 4. Gloves must be worn when handling dry ice.

EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Extension vent tube		
Air compressor		

ACTIVITY HAZARD ANALYSIS

ACTIVITY Tank Removals ANALYZED BY/DATE R.R. Beckwith 11/93 REVIEWED BY/DATE J. Tinney 01/01

Error! Bookmark not defined.PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Demolition	1. Exposure to airborne contaminants released during intrusive activities. 2. Flammable atmospheres encountered area. 3. Possible crushing of workers due to inadequate working space. 4. Falling during access/egress or while monitoring or dismounting equipment. 5. An overhead hazard can result from material, tools, or equipment. 6. Congested work area due to too many workers in a small area. 7. Existing utilities	1. Monitor for airborne contaminants. 2. Use personal protective equipment. 3. Material from demolition must be placed away from work area to prevent personnel injury and equipment damage. 4. To prevent overexertion, limit manual lifting and emphasize mechanical means where practical. 5. Maintain ample work room between workers. 6. Find and mark utilities before demolition. Watch for overhead lines.
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
Pressure washer	1. Fill out Safety Inspection Checklist	1. Train personnel to fill out ORD Form 892
Vacuum trucks	2. Fill out Safety Inspection Checklist	2. Train personnel to fill out ORD Form 892

ACTIVITY HAZARD ANALYSIS

ACTIVITY Soil Sampling ANALYZED BY/DATE K. Helman 10/98 REVIEWED BY/DATE J. Tinney 01/01

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Subsurface Soil Sampling	1. Dermal contact with or inhalation of contaminants, potentially in high concentrations in sampling media. 2. Back strain and muscle fatigue due to lifting, shoveling and auguring techniques. 3. Dermal contact with or inhalation of decontamination solutions.	1. To minimize exposure to chemical contaminants, a thorough review of suspected contaminants shall be completed and implementation of an adequate protection program. 2. PPE shall include level D consisting of work uniform, steel toe boots/shoes, hard hat, safety glasses, hearing protection (when levels exceed 85 dbs) and tyvek suit (may not be needed depending on site conditions). 3. Proper lifting (pre-lift weight assessment, use of legs, multiple personnel) techniques will prevent back strain. Use slow easy motions when shoveling, auguring, and digging to decrease muscle strain. 4. Material Safety Data Sheets for all decontamination solutions shall be included with the Site Health and Safety Plan. 5. First aid equipment shall be available based on MSDS requirements.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Soil sampling tools		OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, and Respirator training. Knowledge and training on collection of environmental samples

ACTIVITY HAZARD ANALYSIS

ACTIVITY Backfill & Site Restoration ANALYZED BY/DATE K. Helman 10/98 REVIEWED BY/DATE J. Tinney 01/01

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Backfill excavation Compact backfill Seed area	1. Noise levels exceeding the OSHA PEL of 90 dBA are both a hazard and a hindrance to communication. 2. Carbon monoxide from the heavy equipment. 3. Overhead utility wires, i.e., electrical and telephone, can be hazardous when the dump truck bed is in the upright position. 4. Falling backfill material from dump truck may cause injury. 5. Moving the equipment over uneven terrain may cause the vehicle to roll over or get stuck in a rut or mud. Be aware of hazards associated with moving heavy machinery and other associated injury. 6. High-pressure hydraulic lines and airlines used on heavy equipment are hazardous when they are in ill repair or incorrectly assembled.	1. Ear muffs or earplugs effectively reduce noise levels. 2. Review the contaminants suspected to be on-site and perform air monitoring as required. Shut down equipment and/or divert exhaust fumes. 3. All chains, lines, cables shall be inspected daily for weak spots. 4. Hard hats shall be worn at all times when working around heavy equipment. 5. Secure loose clothing. 6. To avoid contact with any overhead lines, the truck bed shall be lowered prior to moving the truck. Overhead utilities shall be considered "live" until determined otherwise. 7. The truck bed should not be erected within 10 feet of an overhead electrical line until the line is de-energized, grounded, or shielded and an electrician has certified that arcing cannot occur. 8. All high-pressure lines shall be checked prior to and during use.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
1. Backhoe	Daily, prior to use per manufactures recommendations, Fill our Safety Inspection Checklist	OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, Respirator and operator training
2. Compactor	Daily, prior to use per manufactures recommendations, Fill our Safety Inspection Checklist	OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, Respirator and operator training

ACTIVITY HAZARD ANALYSIS

ACTIVITY Soil Loadout REVIEWED BY/DATE K. Helman 10/98 REVIEWED BY / DATE J. Tinney 01/01

Error! Bookmark not defined. PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Loadout Soil & Site Grading	1. Noise levels exceeding 85 dbs are both a hazard and a hindrance to communication. 2. Carbon monoxide from the heavy equipment. 3. Overhead utilities. 4. Falling backfill material from backhoe may cause injury. 5. Moving the equipment over uneven terrain may cause the vehicle to roll over or get stuck 6. High-pressure hydraulic lines and airlines used on heavy equipment are hazardous when they are in ill repair or incorrectly assembled.	1. Ear muffs or earplugs effectively reduce noise levels 2. Review the contaminants suspected to be on-site and perform air monitoring as required. Shut down equipment and/or divert exhaust fumes. 3. All chains, lines, cables should be inspected daily for weak spots. 4. Hard hats should be worn at all times when working around a heavy equipment. 5. Secure loose clothing. 6. Overhead utilities should be considered "live" until determined otherwise. 7. Be aware of hazards associated with moving heavy equipment. 8. All high-pressure lines should be checked prior to and during use.
EQUIPMENT TO BE USED	INSPECTION REQUIREMENTS	TRAINING REQUIREMENTS
1. Backhoe	Daily, prior to use per manufactures recommendations, Fill our Safety Inspection Checklist	OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, Respirator and operator training
2. Loader	Daily, prior to use per manufactures recommendations, Fill our Safety Inspection Checklist	OSHA 1910.120 40-hr. training, 3 day OJT, 8 hr. Supervisory, 8 hr. refresher, OSHA Hazard Communication, Respirator and operator training

ACTIVITY HAZARD ANALYSIS

ACTIVITY Equipment Decontamination ANALYZED BY/DATE K. Helman 10 /98 REVIEWED BY/DATE J. Tinney 01/01

PRINCIPAL STEPS	POTENTIAL HAZARDS	RECOMMENDED CONTROLS
Decontaminate Heavy Equipment Using High Pressure Wash or Hand Scrubbing Decontaminate Sampling Equipment by Hand Washing	1. Contact with contaminated material, inhalation of airborne aerosols, contact with high-pressure wash stream, unexpected movement of material to be decontaminated.	1. Decontamination area to provide isolation and controlled access. 2. Level D PPE with face shield. Secure items to be decontaminated. Visual inspect integrity of containment liners and containers used for wastewater. CRZ provided for worker decontamination. 3. MSDS' obtained and reviewed for all cleaning solutions chemicals if used.
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
High pressure wash with soap solution, other decontamination solutions, scrub brushes.	Use general safety rules and procedures listed in SSHP, review manufacturer's recommendation and guidance on inspection equipment. Complete on daily basis after use.	OSHA 1910.120 40-Hour Training, 3 day OJT, 8 hours Supervisory, 8 hour Refresher, SSHP, OSHA Hazard Communication and Respirator training.

APPENDIX H

HOSPITAL DIRECTIONS

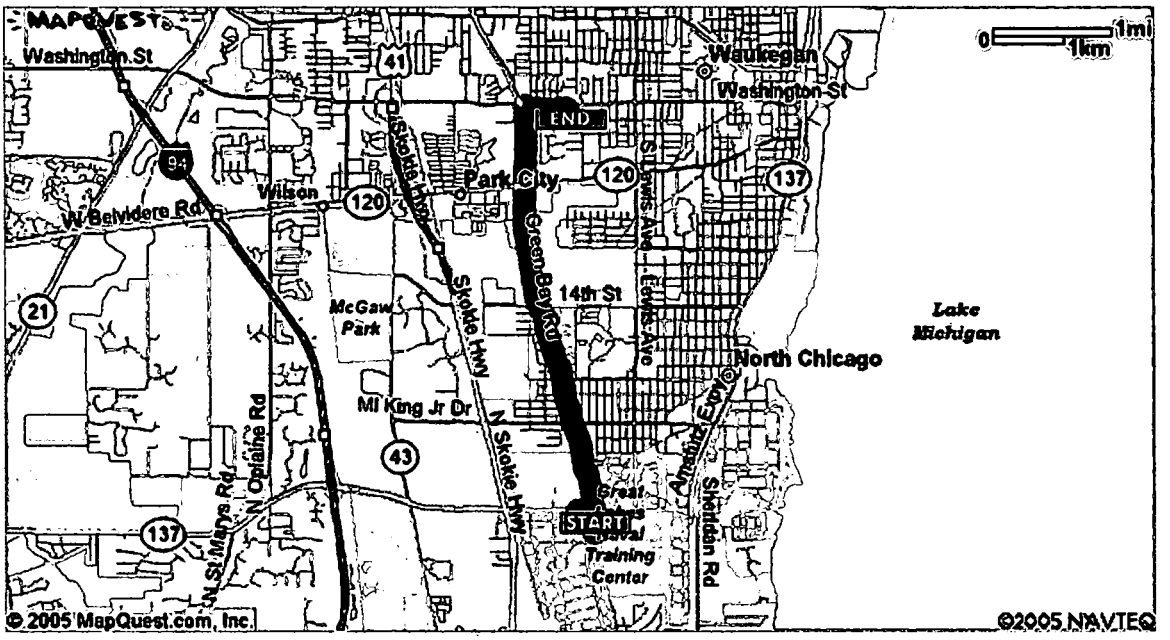
MAPQUEST.

Start: **3134 Montana Ave**
Great Lakes, IL 60088-1504, US

End: **2615 Washington St**
Waukegan, IL 60085-4980, US

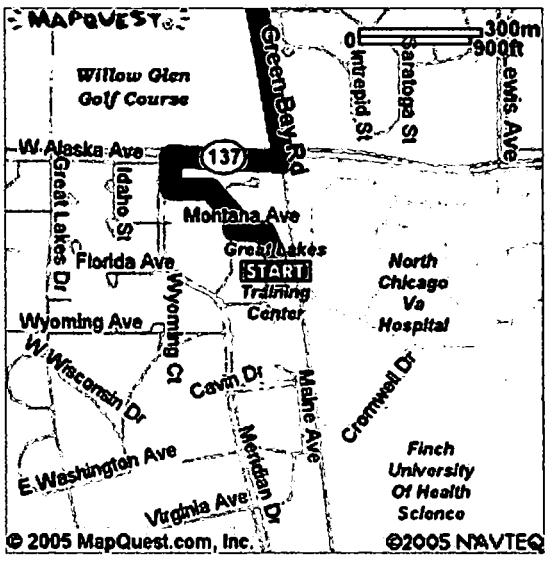
Directions	Distance
START **1:** Start out going NORTHWEST on MONTANA AVE toward ARIZONA AVE.	0.1 miles
2: Turn RIGHT onto ARIZONA AVE.	0.1 miles
3: Turn RIGHT onto MERIDIAN DR.	<0.1 miles
EAST 137 **4:** Turn RIGHT onto IL-137 E / BUCKLEY RD / CR-20 E.	0.1 miles
NORTH 131 **5:** Turn LEFT onto GREEN BAY RD / IL-131 N.	3.6 miles
6: Turn SHARP RIGHT onto WASHINGTON ST.	0.3 miles
END **7:** End at **2615 Washington St** Waukegan, IL 60085-4980, US	

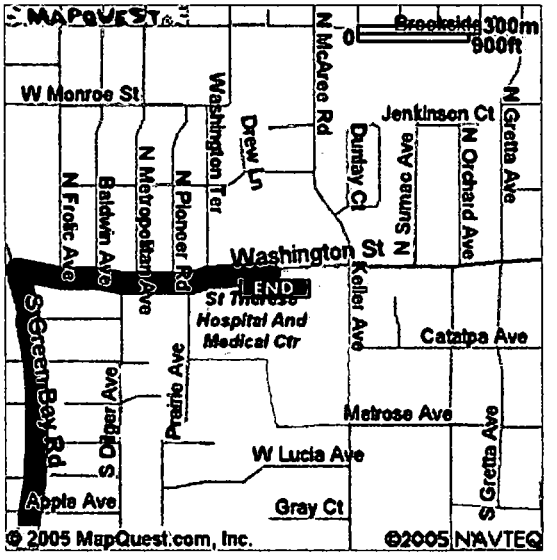
Total Est. Time: 9 minutes **Total Est. Distance: 4.47 miles**



Start:
3134 Montana Ave
Great Lakes, IL 60088-1504, US

End:
2615 Washington St
Waukegan, IL 60085-4980, US





Notes:

NAVTEQ ON BOARD